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# TWENTY-SIXTH ANNUAL REPORT

RELATING TO THE

## REGISTRY AND RETURN

OF

# BIRTHS, MARRIAGES AND DEATHS

IN

## MICHIGAN

### FOR THE YEAR 1892

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BY THE SECRETARY OF STATE OF THE STATE OF MICHIGAN

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BY AUTHORITY

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# AUTHORITY FOR PUBLICATION AND DISTRIBUTION OF VITAL STATISTICS REPORTS.

HOWELL'S ANNOTATED STATUTES, SUPPLEMENT 1883-1890, SECTIONS 26 *g* AND 26 *j*.

§ 26*g*. SEC. 7. That there shall be published a sufficient number of copies of the reports of the several officers, boards of officers, and public institutions of this State, now or hereafter required to make reports, not mentioned in sections eight, nine, ten and eleven of this act, and be bound together as joint documents of the fiscal or calendar year for which such reports are made, to supply the following persons, officers, libraries, corporations and societies, viz., State officers and their deputies, ex-State officers, libraries of State officers, officers and libraries of State institutions, members and libraries of State boards, senators and representatives of this State in Congress, the United States senate library and the library of Congress, members of the legislature of the year for which said joint documents are published, justices of the supreme court, judges of the circuit courts, county clerks, county treasurers and judges of probate, public, free and incorporated libraries, public schools having a library, and publishers of newspapers published at that time in this State. That in addition to the foregoing there shall be published of said reports as joint documents, three hundred and fifty copies, one hundred copies of which shall be deposited in the State library for use in said library and for exchanges, and the remaining two hundred copies shall be deposited in the office of Secretary of State to supply future demands.

§ 26*j*. SEC. 10. That a sufficient number of copies of the annual report of the Secretary of State on births, marriages and deaths shall be printed and bound for distribution, in the same manner as the joint documents; also a sufficient number to supply the officers making returns of births and deaths compiled in said report or their successors in office with one copy each, for depositing one hundred and fifty copies in the State library for use in said library and for exchanges, two hundred copies in the office of the Secretary of State as in the case of the joint documents and two hundred copies in the office of the State board of health for distribution by said board in their discretion.

# LETTER OF TRANSMITTAL.

DEPARTMENT OF STATE,
LANSING, *October, 1894.*

HON. JOHN T. RICH, *Governor of Michigan:*

SIR—In accordance with law, the Twenty-sixth Annual Registration Report of Michigan is herewith submitted. It contains the statistics relating to the births, marriages and deaths that were returned as having occurred in the State during the year ending December 31, 1892.

These statistics, except those of marriages, which are fully returned under the marriage license law of 1887, are collected and returned to this Department under the old registration law of 1867, as amended in 1869, which law has proved utterly inadequate for the purposes for which it was devised.

The returns of both births and deaths are deficient to such a degree that they would require to be increased by at least sixty per cent to correctly represent the actual numbers of births and deaths that occurred. It results that proper legal records are not preserved of many births and deaths that occur in the State, and that the statistics based upon the registration returns have never been reliable. It is humiliating to confess, but strictly true, that after over twenty-five years of State registration under the present system in Michigan, we have no birth-rates or death-rates for the State, or for even a single county of the State, that are approximately correct, or that would command respect for a moment with those familiar with vital statistics. The nature of the inaccuracies that occur is discussed in the Introductory Remarks following, and the essential features that an improved registration law should possess, in order that reliable and timely vital statistics may be collected for this State, are there suggested.

It is urgently recommended that prompt legislative action be taken to remedy this unsatisfactory condition of affairs by the passage of a registration act more in accordance with modern requirements. State registra-

tion, if worth doing at all, and from its sanitary, social and legal application it is unquestionably an important and necessary function of the State, is worth doing well. Money spent for imperfect and incorrect returns is largely wasted; money expended upon a reliable system of vital statistics will bear abundant interest in sanitary and social improvement. Michigan was once a leader in this department, and with a little timely effort can recover her former position as the foremost of the Western States in this fundamental branch of public health service.

The present report has been so arranged for convenient reference, with a list of tables showing their contents (p. xv), a full index, summaries at the beginning of each important division, and maps and diagrams prepared to illustrate some of the most important facts, that any special remarks in regard to the statistical features of the year appear to be unnecessary at this place. Trusting that the labor expended upon its preparation may be of use in conveying clear and correct ideas of the results obtained by the present law, I have the honor to be,

Yours very respectfully,

WASHINGTON GARDNER,

*Secretary of State.*

# INTRODUCTORY REMARKS.

This report, like the one for the preceding year, appears several months later than has been customary for the past few years. The reason for the necessary delay in each case has been the large amount of additional labor that it has been necessary to perform in their preparation in order to bring them somewhat more into conformity with modern methods of statistical presentation. Thus, in the previous report, a series of estimated populations was introduced, whereby the general results of the registration of births, marriages and deaths, and also the results of the registration of deaths from specified causes in different years, became for the first time comparable. Some of the valuable results relating to the variations of certain diseases thus obtained have been diagrammed by the State Board of Health, and are presented, by the courtesy of Secretary Baker, as Diagrams III–VIII of this report.

In the present report, besides the continuation of the comparative study of the statistics of previous years begun in the last report, special pains have been taken to present the important facts relating to the registration of causes of death in a more compact and accessible form than heretofore. The antiquated statistical classification of Dr. Farr has been discarded and a form of statement giving prominence to important diseases, definitely returned, and especially those infectious diseases in process of restriction by the public health service of the State, has been adopted provisionally until an accredited modern system of nomenclature and classification shall be officially adopted by the leading registration reports of this country. How far these efforts have been successful may be determined by inspection of Tables 69 and 70, which present, in the compass of twelve pages, the most essential facts of tables that formerly occupied about sixty pages. Moreover, the risk of error in reference to these tables has been removed by using terms in only one signification, instead of confusing them in different tables of the same report.

An additional part,—that exhibiting the facts obtainable in regard to

vital statistics and the registration thereof in the cities of Michigan,—has been added to the present report, and is regarded as of great importance. The first reliable death-rates from all causes and from certain important diseases that have ever been presented in these reports for any considerable portion of the State are here stated. They are obtained from the monthly bulletins showing the results of the immediate registration of deaths under local ordinances in the cities of Detroit and Grand Rapids. Even if no improved general registration law for the State be enacted, it would be easy to provide for the return of the deaths registered by city authorities to the State Department, and thus inaugurate a more accurate system of registration. The provisions of charters and ordinances relating to registration of vital statistices have been carefully studied, and the results will not only prove valuable for reference but will also strongly suggest the desirability of uniformity in such provisions for all the cities of the State, and also of provisions requiring returns to be made to the State Department by which the statistical results of such registration may be utilized.

## DEFECTS OF THE PRESENT SYSTEM OF REGISTRATION.

The particulars in which our present registration law, which has remained unchanged since 1869, and which has long been recognized as a failure in carrying out the purposes for which it was devised, are deficient were fully stated in the Introductory Remarks of the last report, and need not be referred to here except in brief recapitulation:

1. The method of enumeration of births and deaths by supervisors and assessors after the close of the year in which the births and deaths occurred (the census method) is a recognized failure for vital statistics. For the same reasons, neglect, forgetfulness, etc., that an ordinary census enumeration of births and deaths is imperfect, the registration returns are imperfect, and probably to a slightly greater degree from cases of individual neglect on the part of supervisors.

2. The registration returns are even less perfect than the imperfect census enumeration of births and deaths because there is a loss of time at the outset, before the enumeration begins, amounting to three or four months. The enumeration takes place each year from April 10 to June 1 for the births and deaths of the calendar year preceding. Probably most of the actual work is performed in May, four months after the close of the registration year. The census enumeration taken in June is for the year ending June 1, immediately preceding.

3. As a result of the imperfect methods of collection of these data, probably not more than 60 per cent of the true numbers of births and deaths

that actually occur are properly returned and placed upon record. That is, two births and deaths out of every five that occur, are omitted.

4. As a consequence of these omissions, the value of the records for legal purposes is greatly diminished. Requests for certified copies of the records of births and deaths that, undoubtedly, actually occurred in the State reach this Department, but in many such cases there no records preserved of the same. The serious effect that such lapses of evidence would have in support of legal claims, especially cases of inheritance in foreign countries where proofs of birth or death are required, pension cases and the like, is apparent. The State owes it to each citizen to preserve an accurate and trustworthy record of these vital facts, the absence of whose preservation may mean individual embarrassment and loss.

5. As a consequence of these omissions, the value of the records for statistical purposes is greatly impaired, and is even, in some of the most important respects, entirely destroyed.

6. Thus, no reliable birth-rates or death-rates for the entire State or for even a single county of the State have ever been presented in these reports. The rates based upon the returns are so low as to be self-evidently worthless to anyone desiring to employ them in comparisons with the rates of other States or countries. They meet with no acceptance by statistical experts,—Michigan was not even included in the list of "Registration States" according to the mortality reports of the last United States census,—and their sole value appears to be for comparison with other, and presumably equally defective, returns for previous years in Michigan.

7. Again, the distribution of the births and deaths that are reported among the months and seasons of the year is misleading. The returns are more perfect for the latter months of the calendar year, which are nearer to the time of enumeration in May, than for the early months of the year. In consequence of this irregular distribution any exact comparison of deaths returned from different diseases, by months, and the meteorological conditions prevailing in the same months, becomes impracticable. Even the relative importance of different diseases as causes of deaths in this State cannot be correctly known, for some are more fully reported than others according to their seasons of prevalence.

8. Causes of deaths have never been fully and correctly reported under the present system, nor can they be until a physician's certificate is required in each case. There is a large percentage of deaths reported each year in which the cause of death is entirely unspecified or given as "unknown." A great many more are returned in a way that really gives no precise information as to the causes of death, although the supervisors who made the original returns probably considered them sufficiently definite. Such

are "heart failure," "debility," "old age," "convulsions," "dropsy" (rejected as a cause of death without more definite statement by the New York health authorities as far back as 1870), "fever" (unspecified as to its nature), etc., etc. The supervisors cannot be expected to possess medical information sufficient to enable them to discriminate when imperfect information is given them under this head, and in consequence no reliable information will ever be collected by them in regard to causes of death.

9. Knowledge of the geographical distribution of deaths from certain causes, *e. g.*, consumption, diphtheria and typhoid fever, in different localities of the State may be of the greatest practical importance and interest. Two maps are inserted in this report showing, by graduated degrees of shading, what the relative degrees of prevalence of consumption and diphtheria (including croup) were for every county in the State during the five-year period, 1888-92. But it must be frankly admitted that the returns of deaths are more perfect in some counties than in others, and that those counties that make the most thorough reports may have an apparently higher mortality than other counties in which the supervisors' work is very lax, thus unjustly representing their true relations.

10. Lastly, and most important of all in many respects, the collection and return of the statistics are so delayed that when they are finally received and compiled they have ceased to be of any public interest and practical sanitary importance except for purposes of comparison. The returns on which this report for the year 1892 are based did not reach this Department until nearly the end of 1893, and then the entire bulk of returns for the year had to be compiled in one mass. As the editorial work cannot be performed satisfactorily until the final results of the compilation are known, and as the editorial commentary of itself, unless restricted to the mere repeating of stereotyped remarks, requires careful study, it is evident that the earliest possible time in which the registration report can appear is about the middle of the second year after the year of registration.

## ESSENTIALS OF AN IMPROVED REGISTRATION SYSTEM.

There can be little question as to the general character of the methods to be employed in order to obtain satisfactory results in registration, although the details of the system to be adopted in this State may be a matter of wide choice. There are already in this country—in all of the New England States, New York and New Jersey—systems of registration in operation under which fairly satisfactory results are obtained. Practical observation in these States has settled the advantages or disadvantages of certain methods of procedure, and it is only necessary to profit by such

experience in order to devise a plan for Michigan that shall be in no sense an experiment, but of demonstrated practicability from its inception.

Certain especially important features that any modern system of registration should possess are the following:

1. The method of collection of data regarding births and deaths should be by *immediate registration*, and not by any plan of enumeration at a subsequent period. The births and deaths should be recorded by a local registrar—health officer, city clerk or clerk of city board of health, township or village clerk, or other suitable official—at the earliest practicable moment after their occurrence. The facts are then fresh in memory and greater accuracy is assured in all of the statistical details, while this is the only way in which it can be sure that all such occurrences are registered.

2. The local registrar should receive adequate compensation for his work and be subject to suitable penalties for neglect or fraud in its conduct. He should issue permits for the interment, transportation or other disposition of the bodies of all persons who die within his jurisdiction. Such permits should be issued only after the presentation of a certificate of death containing (1) the essential facts of record properly certified to by a qualified person, and (2) the statement of the cause of death certified to by the physician last in attendance, health officer or coroner. It should be made punishable by law to inter or assist in the interment or other disposition of the body of any person dying in this State without the sanction of such duly authorized burial permit. In sparsely settled localities, where the local registration office may not be readily accessible, certain forms of emergency procedure can be devised in order to obviate any possible hardship.

Births should be made returnable by physicians, midwives or parents within a short time after their occurrence, and under suitable penalties in case of neglect.

3. Arrangements should be made for the prompt transmission of the returns by the local registrars to the central registration office. Reports should be made at least monthly, and, for the larger cities, it might be advisable that they should be made at more frequent intervals. Prompt monthly or weekly reports would enable the health condition of the State to be known at the time when such knowledge would be of practical value. Public interest in the variations of mortality would be aroused, efforts be made to reduce the mortality when the registration returns showed that it was abnormally large for special localities, and an intelligent public opinion be cultivated in regard to the sanitary condition of the State. It is very desirable in this connection, as regards the registration of deaths, that the original certificates of death be transmitted to the central registration

office, there to be compiled under medical supervision. It is only by having the entire course of registration, so far as it relates to the proper return and compilation of causes of death, under professional control, that satisfactory statistics will be presented upon this very important subject.

As shown in Part V of this report, these principles are already practically observed in the local systems of registration adopted in many of the cities of the State, and under which, as shown by the comparative data presented for Detroit and Grand Rapids as obtained by the State and local systems of registration for the same years, the results are much more correct than those given by the State registration. It would only be necessary to provide for uniformity in the data collected by the local municipal authorities, and for the proper return of such data to the central registration office for the purpose of compilation, in order to establish a useful and satisfactory system of vital statistics for a large proportion of the population of the State. According to the census of 1894 the total population of the State was 2,241,914 persons, of whom 821,107, or about 37 per cent., were inhabitants of incorporated cities. A thoroughly correct and reliable system of registration of vital statistics for so large a proportion of the population would be of great practical value, and would pave the way for the ultimate extension of an approved system of immediate registration over the entire State.

On the other hand it may be preferable for some reasons to adopt a new registration law for the entire State at once, applicable to rural communities as well as to cities and villages. Taking into consideration the present condition of the State in regard to wealth and density of population, this course would probably be perfectly practicable. Indeed, an improved and thoroughly modern and efficient system would be a less serious undertaking for the State at the present time than the adoption of the present system was in 1867. Since that time the average density of population of the State has nearly doubled, and its resources and means of internal communication have been very largely increased. Should a uniform system be put into operation for the entire State, no variations in proportions and character of population represented would have to be considered in subsequent years, but a broad, substantial foundation adequate for the future demands of the State would be provided, and progress in the statistical study of vital conditions in Michigan would be uninterrupted from this point.

These questions of expediency are properly the subject of legislative consideration. It belongs to this Department to thoroughly display the results obtained under the present system, and to respectfully ask consideration of their more obvious deficiencies with a view to the application of

such remedies as may be considered proper. The improvement of our registration law is a matter that this Department, which is charged with its administration and statistical study, has deeply at heart, and for which end it is eager to coöperate with all persons desirous of improving such conditions. It is gratifying to note in this connection that the State Medical Society, to whose early interest in the vital statistics of the State and promotion of legislative action in regard thereto, is chiefly due our present registration system, appointed a committee at its last session (Lansing, 1894), for the purpose of petitioning the legislature with reference to the adoption of a better system of registering births and deaths.

It is also probable that the State Board of Health, whose valuable sanitary work in Michigan has been oftentimes seriously handicapped by the absence of a thoroughly reliable mortality registration in this State, will appoint a committee to coöperate with the committee of the State Society. Much may be hoped for from the efforts of these committees which represent the most advanced medical opinion in the State, and the prospect seems favorable in every way for Michigan to regain the position she once occupied in vital registration as the pioneer and leading representative of State registration among the Western States.

### INTERSTATE AND INTERNATIONAL VITAL STATISTICS.

Vital statistics is essentially a comparative science. The data collected by a State are put to their best use when they are so arranged that comparisons may be readily and accurately made with the corresponding data collected by other States and countries. This, indeed, was one of the prime objects for which our State system of registration was instituted, as appears by the report of the committee on State Affairs to the legislature of 1867 prior to the passage of the registration law: "The statistics collected under an efficient registration law would be valuable, *First*:—Because from them could be accurately determined the relative standing of our State as to *health* compared with other States, and the comparative healthfulness of different portions of it." Our registration law has never been very efficient, and hence the comparative study of the statistics of Michigan collected under it and those of other States and countries is difficult and unsatisfactory. An effort has been made, however, in this report to carry out the purpose of the law to the fullest extent possible under present conditions. The results may be seen in Diagram IX, illustrating the variations in gross mortality of Michigan and certain other States and foreign countries during the years 1880–92, and also in various tables of comparative vital-rates (Tables 7 to 9 and 76 to 81).

In the preparation of the tables showing the death-rates of other States

from all causes and from some important diseases for the series of years included, ample illustration was found of the difficulties and inaccuracies resulting from varying methods of compilation and statement of vital results in use in different States. It would be a great step in advance if all the States of this country that issue registration reports could unite upon the essential details to be presented and the manner of their statement. At least, consecutive series of birth-rates, marriage-rates and death-rates should be presented for all the years of registration in each State, which rates should be based upon systematic estimates of population for each year. Tables should also show the numbers of deaths, and probably the death-rates, for the most important causes of death during each year of registration. Our only knowledge of the vital statistics of the country as a whole during inter-census years depends upon the comparative study of the several State registration reports, and any measures taken to render them readily comparable would greatly facilitate such study.

A union has been formed among the registrars of the six New England States (all now having excellent systems of State registration since the addition of Maine in 1892) for the presentation of the most important data of the six States as a whole. This is a most important step in advance, and looks toward the unification of the reports of these States in essential details. Could New York and New Jersey be added, we should have about one-fifth of the total population of this country uniformly represented in State registration reports. None of the Western States are included, however, and it is therefore especially incumbent upon us to bring the Michigan system to such a degree of efficiency that its results may meet with statistical acceptance, and contribute to the common knowledge of the vital statistics of the United States.

A very important feature relating to the comparability of the vital statistics reports of different States is the adoption of a uniform plan of statistical nomenclature and classification of causes of death. The condition of the different reports at present is chaotic, even those in which apparent agreement exists, so far as can be judged by the terms employed, really differing so much in essential details as to make comparisons very difficult and unreliable. The old system of nomenclature devised by Dr. Farr has held its place in recent years chiefly through indifference on the part of the registrars employing it, many of its terms having long been discredited by the advance of medical knowledge. While our chief efforts in this State at present are not properly directed toward matters relating to the proper presentation of vital statistics, but rather to the end that we shall have some reliable vital statistics to present in any form, it is evident that as soon as the State shall possess a reliable registration system the

question of nomenclature and arrangement of causes of death will be of importance. Some preliminary work has been done in the present report on this subject, and a *provisional* classification has been employed in the principal tables (Tables 69–71) which, it is believed, will render the facts more accessible and of greater practical use than heretofore.

The fact should be emphasized that Michigan or any other State cannot advantageously adopt a system of classification for permanent use without reference to those adopted by other States. At the meeting of the American Public Health Association, a representative body of sanitarians and public health officials from all the States and Provinces of the United States, Mexico and Canada, held at Montreal in September, 1894, a paper was presented by Dr. Wilbur on behalf of this Department showing the nature of the provisional system adopted in the Michigan reports, citing the objections (by permission of the Publication Committee, substantially as stated on pages 184 to 187 of this report) to the present classification, and urging that a representative body of State and municipal registrars meet in connection with the Association at its next meeting (Denver, 1895) for the purpose of taking action on this and other important subjects relating to registration. When a uniform, modern system of nomenclature and classification shall be recommended by a representative convention of American registrars, the system will be promptly adopted in these reports, which, it is sincerely hoped, will soon present, under an improved registration law, vital statistics more worthy of careful study than those obtained at present.

## VITAL STATISTICS LIBRARY.

Some progress has been made during the past year in obtaining the nucleus of a working library on the subject of vital statistics. Exchanges have been begun with nearly all of the State registration offices of this country and with certain foreign offices, and in several instances complete, or nearly complete, sets of registration reports for previous years have been obtained. Several standard works on registration have also been added by purchase. Reference works are absolutely necessary for the study required in the proper issue of a registration report, and from their special character it cannot be expected that sufficient attention will be paid to their accumulation in a general library. By a little attention to the matter in this Department, continued from year to year, the library of works relating to vital statistics will grow into respectable proportions, and will furnish invaluable material for the work of the future compilers of these reports.

In pursuance of the above ideas, this report will be sent in some cases to registration offices with which at present we have no exchange, with the object of establishing one. It is especially desired to obtain the leading city registration reports of this country, and also to complete our sets of State registration reports and State board of health reports as far as possible. In return sets of the Michigan reports (incomplete for certain years) can be supplied, and correspondence is solicited upon this subject from persons interested.

For important accessions to the library during the past year, acknowledgments should be especially made to the following persons: Dr. George M. Sternberg, Surgeon-General U. S. A., for valuable volumes of the Index Catalogue of the Surgeon-General's Office; Dr. Samuel W. Abbott, Massachusetts, Dr. Lewis Balch, New York, Dr. J. Berrien Lindsley, Tennessee, Dr. Gardner T. Swarts, Rhode Island, Dr. C. A. Lindsley, Connecticut, Dr. A. G. Young, Maine, Dr. C. O. Probst, Ohio, Dr. Jerome Cochran, Alabama, Dr. C. W. Chancellor, Maryland, Dr. J. T. Reeve, Wisconsin, Dr. J. F. Kennedy, Iowa, and Dr. Joseph Y. Porter, Florida, Secretaries of State Boards of Health, for State board of health and registration reports of their respective States; Hon. James McMillan, United States Senator, for U. S. Census reports; Mrs. M. C. Spencer, State Librarian of Michigan, for duplicate copies of U. S. Census Mortality Statistics; Dr. Davis R. Dewey, Secretary of the American Statistical Association, for a nearly complete set of the Quarterly Publications; Hon. L. C. Storrs, Secretary of the Michigan State Board of Corrections and Charities and also of the National Conference of Charities and Corrections, for sets of reports of both organizations; and Surgeon-General Walter Wyman, U. S. M. H. S., for bound volumes of the Sanitary Reports.

The extensive collection of sanitary and statistical works belonging to the State Board of Health has been freely at the disposal of this Department for use in the preparation of this report, and facilities have been accorded in the State Library for the same purpose, for which advantages sincere thanks are returned. It is recommended that a set of the Journal of the Royal Statistical Society be purchased for the State Library, as many papers on statistical subjects of the greatest importance, and not to be obtained elsewhere, are therein contained. A set of this Journal would be of great value for reference by all the offices of the State concerned with statistical work, and if, as is believed to be the case, the regular library appropriation is insufficient to warrant the necessary expenditure at the present time, a special sum should be granted for this purpose.

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## NOTE ON EXPRESSION OF RATIOS.

All ratios, whether rates per hundred (per cents), per thousand or per hundred thousand, are stated to the first decimal place (tenths). They are necessarily calculated to the second decimal place (hundredths), the rule being to call .05 (or more) an additional .1 and to reject less than .05. The same rule is followed in quoting ratios from previous years in which hundredths are expressed.

When a number is divided into parts, the relations of which are expressed as per cents of the total, it will often be found that the per cents of the several parts added together are slightly less or greater than 100.0 per cent—that is, if any uniform rule is followed in regard to fractional remainders. This is sometimes obviated by the process known as "forcing a balance," in which the fractional excess or deficiency is arbitrarily distributed in such a way that the apparent difficulty disappears. The matter is of little consequence, and is referred to only for the purpose of stating that such ratios are given as calculated, without adjustment, in the present report.

---

## ERRATA.

In Diagram I, p. 1, read *diarrheal* diseases. On p. 4, the deaths registered for Grand Rapids in 1890 were exclusive of still-births as well as those of Detroit; the deaths registered for Manistee and Muskegon are for the census year 1889-90. On p. 9, fourth line from top, substitute *such comparisons* for *gross mortality*. In Table 4, p. 11, the estimated population of 1882 is *1,728,327* instead of 1,782,327. On p. 35, in tabular comparison at bottom of page, read per cent aged 5–14, inclusive, for Michigan, *21.9* instead of 21.4. On p. 103, third line of second paragraph, read *their* proximity. On p. 111, cancel the first clause of the last sentence. On p. 194, fourth line of second paragraph, cancel the clause "which represents the deaths returned as diphtheria alone." Diagram V represents the death-rates from diphtheria and croup taken together as given in the table on p. 194. On p. 199, second line of third paragraph, read "The nature of the returns *does*, etc." In Table 103, p. 272, the aggregate age of gardeners for twenty-two years is *18,755.0* years; on same page, the aggregate age of ship carpenters should be *396.5* years; on p. 273, the average age of boiler makers for twenty-two years is 45.9 years, while the aggregate age is *2,113.5* years; on p. 275, the aggregate age of railroad expressmen is *669.5* years. These changes, due to transposition of decimal points in copying, do not affect the totals, by classes, which are substantially correct. In Table 105, p. 286, insert asterisk after Norway. On page 324, sixth line from top, read Table *107*.

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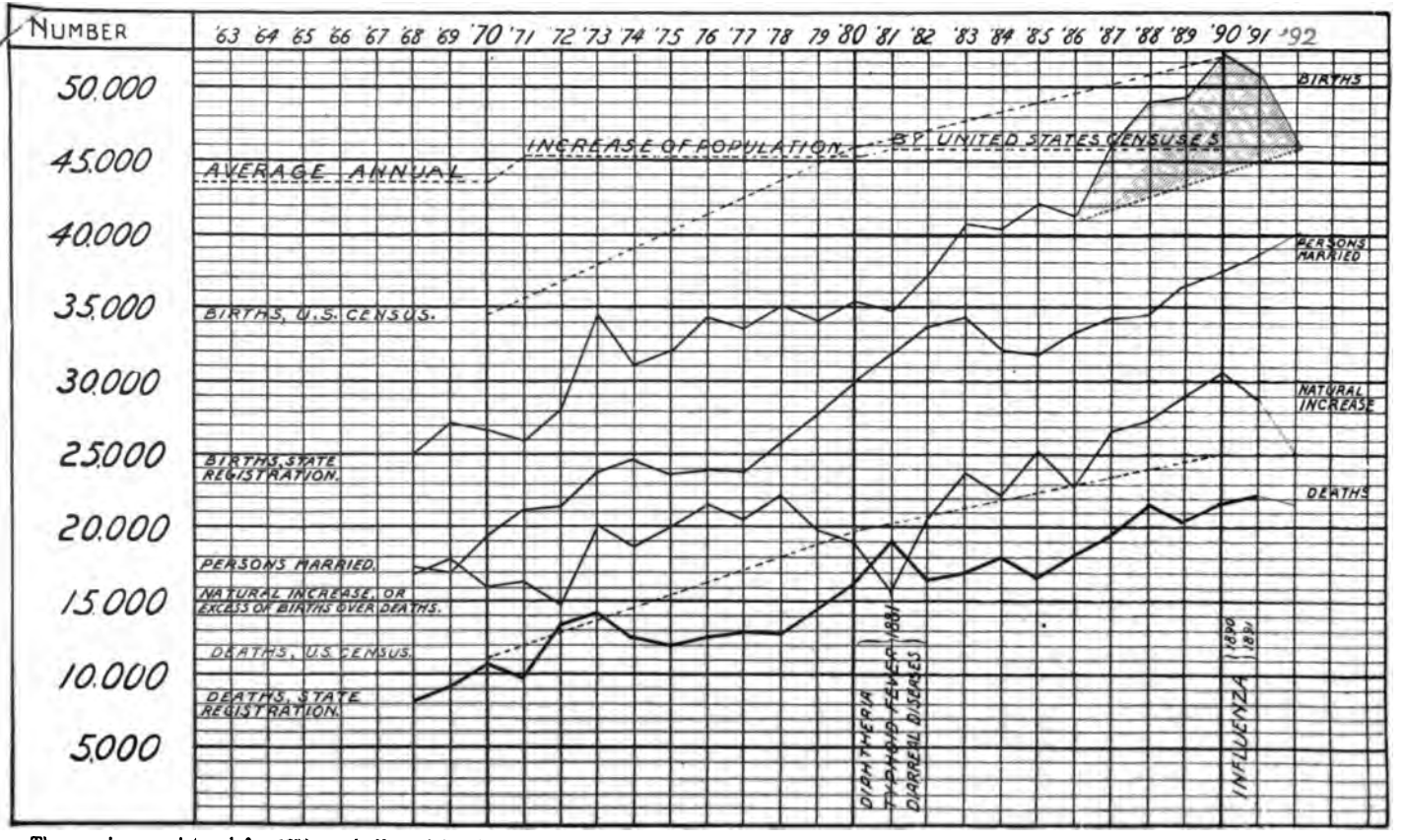
# DIAGRAM I-REGISTRATION OF VITAL STATISTICS IN MICHIGAN; 1868-1892.




The numbers registered for 1892 are indicated by the terminations of the red lines, ——. The dotted red line, - - - - -, represents the probable number of births that should have been returned for the years 1887-91. The shaded area in red lying between this line and the line of births actually registered above indicates fraudulent returns from the city of Detroit for those years. See pages 6-8 for fuller explanation.

# TWENTY-SIXTH ANNUAL REGISTRATION REPORT OF MICHIGAN.

## PART I.—VITAL STATISTICS AND POPULATION.

In this portion of the report a general view will be given of the more important features of the registration returns for the year 1892, together with certain comparisons with the corresponding results of previous years of registration, and some data relating to the character and movement of population in the State that are of interest to the student of vital statistics.

Births, marriages and deaths are the occurrences of importance in the lives of the citizens of this State concerning which information is at present collected by law, and authorized to be annually published in these "Vital Statistics Reports." The facts relating to these three classes of events would, if accurately collected, fairly represent the vital history of the State, and as such be of great value to students of sociology and to practical workers in sanitary science. It is deeply to be regretted that, under the present registration law, the returns of births and deaths are very imperfect, probably as large a proportion as two deaths out of every five that actually occur being unreturned. This large percentage of omissions quite invalidates the conclusions derived from their study in certain directions, and should be thoroughly understood at the outset before attempting to make any use of them.

It should be distinctly understood, however, that the fact that the Michigan registration returns have always been very deficient so far as a complete record of all the births and deaths that occur in the State is concerned, does not invalidate *all* conclusions drawn from their study. Thus the changes in mortality from year to year are perfectly comparable under the assumption that the percentage of omissions in different years is practically constant. The close correspondence between the evidence given by the Michigan returns and those of States in which more perfect systems are in operation, fully confirms this opinion, and justifies confidence in these annual registration reports as truly indicating, although on a reduced scale, the variations in the

public health from year to year. The relative importance of various diseases as causes of death may probably be correctly inferred from the returns; also the geographical distribution of infectious and other diseases through the State, and the relative numbers of deaths from different causes at the various age-periods. All these are important, and would perhaps justify the continuance of the present system if no better were obtainable. As an example of the practical uses made of these statistics at present, reference may be made to the various diagrams and tables based upon these returns that are found in the annual reports of the State Board of Health. That for the year 1891, in alluding to certain "interesting and valuable comparisons of the statistics of deaths (from typhoid fever), published by the Secretary of State, with statistics of sickness reported to the State Board of Health," says: "The result is very satisfactory, because there is conclusive evidence of the usefulness of both series of statistics; and because they yield valuable evidence on the causation of an important disease."

The statistics relating to marriages are obtained in an entirely different manner from those relating to births and deaths, and since the law of 1887 requiring a license to be issued by the county clerk as a necessary preliminary to the ceremony, at which time affidavit of the essential facts of record relating to the parties to the marriage is required to be made, the returns have been very perfect. It is necessary, however, under the license system to exercise vigilance in order that delayed returns from the officiating clergymen or justices to the county clerks may be properly sent in by them to the State Department, thus completing the records used as the basis of compilation. No less than 978 delayed returns of this description were completed by correspondence for the registration year 1892, 390 of these being from Wayne county alone.

## SUMMARY OF REGISTRATION RETURNS FOR THE YEAR 1892.

| | |
|---|---|
| **Total number of marriages,** | **20,107** |
| **Persons married,** | **40,214** |
| **Persons married per 1,000 estimated population,** | **18.4** |
| **Total number of births,** | **46,221** |
| **Births per 1,000 estimated population,** | **21.2** |
| **Total number of deaths,** | **21,729** |
| **Deaths per 1,000 estimated population,** | **9.9** |
| **Natural increase of population,** | **24,492** |
| **Natural increase per 1,000 estimated population,** | **11.3** |

In the above summary the rates are calculated to an estimated population of 2,185,279, obtained by assuming that the annual increments of population of the State for the two years that have elapsed since the census of 1890 were the same as the average annual increments for the inter-census period, 1880-90. This method, as was shown in the report for last year and as may be seen also in Table 4 following, probably gives better results for the peculiar conditions of growth of the population of this State than the ordinary method employed in registration reports,—that of assuming that the populations of successive years stand in the relations of the terms of a geometric series to one another. The latter method may be useful where the natural increase of population is the predominant factor of growth; in Michigan, where the amount of immigration is an important element of increase, it does not appear to be so applicable.

The number of marriages stated above is probably very nearly the entire truth. An

allowance of less than one per cent would, there is reason to believe, cover all delayed and delinquent returns for the year.

The enumeration of births and deaths is much more imperfect. The absolute numbers and the rates per 1,000 based thereon as given above are undoubtedly much lower than the actual truth. If a uniform increase of 60 per cent be made in the numbers returned and in the corresponding rates, we shall have, for births, instead of 46,221 as returned, 73,954, a number almost certainly less than the actual number of births that occurred; the corresponding birth-rate would be 33.8 per 1,000 living population. For deaths we should have 34,736 instead of 21,729 as returned, and a death-rate of 15.9 instead of 9.9. Again it may be said that these numbers are safely within the limits of probability. In round numbers it may be asserted that out of every five births or deaths that actually occur in the State, only three are properly recorded according to law; two out of every five fail to be registered, and thus not only the statistical value of the registration is impaired, but also its reliability and accuracy as a legal record is interfered with.

Some of the arguments and opinions supporting the belief that the birth-rates and death-rates of Michigan according to the registration returns are far below the truth, may be briefly referred to:

(1) The method of collection of births and deaths is that of *enumeration*, as opposed to the method of *immediate registration* of these events as they occur. The enumeration or ordinary census method is recognized as a failure by census authorities and vital statisticians the world over so far as the collection of vital data is concerned. As far back as the Seventh Census of the United States (1850) it was stated that: "The tables of the census which undertake to give the total number of births, marriages and deaths in the year preceding the first of June, 1850, can be said to have but little value. Nothing short of a registration system in the States will give these data with even approximate truth. . . . Against all reasonings the facts have proved that people will not, or cannot, remember and report to the census taker the number of such events, and the particulars of them, which have happened in the period of a whole year to eighteen months prior to the time of his calling." The experience of every National census from that time to the present has only confirmed this statement. Dr. Billings, Medical Superintendent of the Mortality Statistics of the Eleventh Census (1890), in a letter in regard to the enumeration of deaths by the last census, estimates the deficiency in the returns for the United States and for Michigan, as follows:—

"Excluding the Indians, the total number of deaths reported as having occurred in the United States during the census year ending May 31, 1890, was 872,944, giving a death-rate of 13.94 per 1,000 of population.

"For the State of Michigan the number of deaths reported was 25,016, giving a death-rate of 11.95 per 1,000 of population. As the result of several different calculations which I cannot here repeat, I have concluded that the death-rate for the whole United States was about 18 per 1,000, or about the same that it was in 1880. As regards Michigan, I have not attempted to make any correct estimate, the data for the purpose being very deficient.

"Taking Connecticut, Delaware, the District of Columbia, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont, for all of which states there were registrations of deaths, I find that the average death-rate per 1,000 of population was 20.38. The proportion of large cities in these areas was considerably greater than it was in Michigan; hence the death-rate in Michigan was below this average, and probably it would be safe to say that it was a little below the United States average, or between 17 and 18 per 1,000."

(2) The registration reports of Michigan from 1870 to 1890 contain "corrected tables" of deaths in which an estimate is made of the deficiency in the returns for each year.

These estimates are based on the comparison of the registration returns for the months of December, 1889, and for January, 1870, with the returns for the same months made by the United States marshals for the ninth census. The average annual correction thus obtained for twenty-one years, 1870-90, and also including the correction applied to the United States census returns of 1869–70, as compiled in this department, was 13.84 per cent. This is certainly too low, for the reason, among others, that the ratio between the deaths reported for December, January, 1869–70, by the ninth census was not at all the ordinary relation that obtains between the numbers of deaths in these months. Had the State census of 1883–84 (the only other census in which a compilation of deaths by months is available) been used as a standard, the correction would have been much higher for the years 1884–90 than that obtained by reference to the results of the census of 1869–70. Indeed, Dr. Baker, the originator of this system of correction of defective returns, has at different times estimated the death-rate of this State to be from 17 to 17.4 per 1,000, rates corresponding to an increase of about 70 per cent in the number of deaths returned.*

(3) The most conclusive evidence, however, bearing on the deficiency of the present returns is that obtained from a study of the actual death-rates, based on burial permits, of certain cities in the State in which immediate registration of deaths is compulsory under local ordinances. Thus for Kalamazoo in 1890, in which year the population according to the United States census was 17,853, there were recorded 314 deaths; this represents a death-rate of 17.6 per thousand. Grand Rapids had a population of 60,278; the deaths recorded for 1890 were 1,011, corresponding to a death-rate of 16.8 per 1,000. Detroit registered 3,900 deaths for 1890, and the death-rate based on the population stated by the census, 205,876, was 18.9 per 1,000. This is exclusive of still-births and premature births. For Niles, population 4,197, the deaths registered were 90 and the rate per 1,000, 21.4. Lansing, with 13,102 inhabitants in 1890, recorded 198 deaths, representing a death-rate of 15.0 per 1,000 population. Manistee, with 12,812 inhabitants in 1890, had 204 deaths, or 15.9 per 1,000. For Muskegon, with a population of 22,702, there were 480 deaths registered, corresponding to a rate of 21.1 per 1,000. The rates in these cities may be taken as fairly representative of the mortality of the State at large. At least they may be taken to represent that of the "city population," which, including in this list places of 4,000 inhabitants and upwards, would constitute about one-third of the total population of the State. The death-rate for the country would, if accurately determined, probably not fall very much below that of the towns,—perhaps 2 per 1,000 less, for it must be remembered that in Michigan much of the so-called "city population" really exists under as favorable conditions, so far as absence of over-crowding is concerned, as the actual inhabitants of the country.

In the foregoing remarks reference has been made chiefly to the evidence showing a large deficiency in the enumeration of deaths. This being admitted, a correspondingly large number of omissions may be presumed to exist in the enumeration of births, since births and deaths are collected by the same officers, at the same time and in the same way. It is possible, however, that the percentage of omissions may be somewhat less for births, as was pointed out in an early issue of these reports, owing to the fact that the children born are for the most part in evidence at the time of the visit of the enumerator while in the case of a death nothing may remain to call his attention to the fact. Another source of error, or rather a deliberate fraud, unfortunately inter-

* See article in "Michigan and its Resources," 1893, p. 195, in which an estimate of 17.4 per 1,000, made in 1881 from a "life table" constructed for Michigan, is quoted. Also an address before the Twenty-seventh Annual Meeting of the State Medical Society, 1892, in which the death-rate is said to average about 17 per 1,000 per annum for the average locality in Michigan.

feres with our study of births, and arises from the fact that the returns of births from the city of Detroit have contained many unwarranted and fictitious entries of children born. The aggregate number of such fraudulent reports of births is probably not less than 30,000 for the years 1887 to 1891, inclusive, a quantity sufficient to materially increase the birth-rates for the entire State, which, therefore, apparently indicated a more perfect registration of births than actually obtained in those years. See page 8, and foot-note, for a fuller statement of the facts relating to these fraudulent entries.

In order that a general idea may be obtained of the subjects discussed in the various tables of this part of the report, the following synopsis of their contents is presented:

*Synopsis of tables showing the general results of registration of vital statistics in Michigan and their relation to population.*

| Table. | Vital statistics and population. |
|---|---|
| 1. | Marriages, births, deaths and natural increase of population in Michigan in 1892. |
| 2. | Marriages (divorces, 1867-86), births, deaths and natural increase of population in Michigan according to the returns since the establishment of the State system of registration, 1867-92. (See Diagram I, for a graphic representation of the data of this table.) |
| 3. | Growth of the State as shown by a comparison of the populations stated by the successive National and State censuses from 1810 to 1890. |
| 4. | Estimated populations for inter-census years by the geometric method and by adding the average annual increase for each year (the latter adopted in this report), together with the logarithms of the populations arranged for use in computing rates. |
| 5. | Relation of registration returns to population, giving the number of persons married, births, deaths and natural increase of population per 1,000 inhabitants for each year of the period 1868-92. |
| 6. | Comparative table, showing the results of the National and State census enumerations of births and deaths in Michigan from 1870 to 1890. |
| 7. | Comparative table, showing the rates per 1,000 living population of *persons married* in certain countries and States during the years 1880-92. |
| 8. | Comparative table, showing the birth-rates per 1,000 living population in certain countries and States during the years 1880-92. |
| 9. | Comparative table, showing the death-rates per 1,000 living population in certain countries and States during the years 1880-92. |
| 10. | Births, deaths and natural increase of population by months for six years, 1887-92. |
| 11. | Marriages, births and deaths in Michigan during the year 1892 arranged with reference to sex, color and nativity for comparison with the corresponding classes of the population according to the census of 1890. |
| 12. | Number of marriages, births, deaths and natural increase of population for each county of the State in the year 1892, with rates per 1,000 estimated population. |
| 13. | Comparison of the returns of marriages, births and deaths from each county in the State for the year 1892 with the corresponding returns for 1891; showing the increase or decrease in each county of each class of returns. |
| 14. | Character and movement of population of Michigan by counties, showing the number and percentage of increase or decrease of population of each county from 1880 to 1890; sex and nativity of inhabitants; the number of dwellings and families and persons to a dwelling and family according to the census of 1890; also the density of population (number of inhabitants to each square mile) and the principal products and industries of each county. |

Table 1 gives a statement of the number of marriages, births, deaths and excess of births over deaths recorded for the year 1892. In order to make these numbers more easily comprehended, calculations are given of the average number of each returned for certain subdivisions of the year. Thus 55 marriages occurred, on the average, on every day of the year 1892 in various parts of the State. There were 127 children born and 60 deaths in the same time. The net daily increase of the population of the State, aside from the number added by immigration, was 67 persons.

**Table 1.**—*Number of marriages, births, deaths and excess of births over deaths in Michigan during the year 1892, with the average numbers for certain subdivisions of the year.*

| Periods of time—1892. | Marriages, 1892. | Births, 1892. | Deaths, 1892. | Excess of births over deaths, 1892. |
|---|---|---|---|---|
| Total for year | 20,107 | 46,221 | 21,729 | 24,492 |
| Average number per quarter | 5,027 | 11,555 | 5,432 | 6,123 |
| Average number per month | 1,676 | 3,852 | 1,811 | 2,041 |
| Average number per week | 387 | 889 | 418 | 471 |
| Average number per day | 55 | 127 | 60 | 67 |

In Diagram I the continuations of the several curves representing the numbers of births, marriages and deaths returned for the successive years of registration, are printed in red for the year 1892. If the point representing the births returned for this year (46,221) be connected with the point marking the returns for the year 1886 (the frauds in Wayne county seem to begin in 1887), the dotted line marking the average between these points probably more nearly represents the actual results of enumeration in the intervening years, 1887-91, than the curve originally printed in the diagram. The shaded area included between these curves would represent the total amount of fraudulent returns, about 30,000 in number, for the five years. The births returned for the years 1887-91, after making this deduction, would be as follows: 1887, 42,156; 1888, 42,091; 1889, 44,833; 1890, 42,916; 1891, 45,561. The corresponding changes in birth-rates for these years will be stated under Table 5. With these alterations the curve representing births in Michigan becomes much more intelligible, and the altogether inexplicable rise in birth-rates in Michigan as given in Table 5 disappears No corresponding increase in marriage or death-rates accompanied it, and the experience of the United States as a whole and of all European countries shows a *persistent decrease in the birth-rate in recent years.* See Part II for a fuller account of this interesting and important subject.

Table 2 furnishes a condensed view of the results actually obtained by the Michigan system of registration. The variations from year to year may be studied by comparison with the five-year averages stated in the table, or, better, by reference to Diagram I, where the figures of this table are graphically shown. Since 1868, which is the first year in which the enumeration of vital statistics may be considered fairly in operation, there is generally shown an increase, fairly uniform in amount, of each year over the one preceding, and corresponding closely to the increasing population of the State.

**Table 2.**—*Number of marriages, births and deaths registered in Michigan from 1867 to 1892; also the excess of births over deaths and the per cent of deaths to births for each year; the number of divorces from 1868 to 1886; the excess of marriages over divorces and the per cent of marriages to divorces. (All are compared with averages for the five-year periods, 1871-75, 1876-80, 1881-85, 1886-90).*

| Years. | Marriages and divorces. | | | | Births and deaths. | | | |
|---|---|---|---|---|---|---|---|---|
| | Marri'ges. | Divorc's* | Per cent. | Excess of marriages over divorces. | Births. | Deaths. | Per cent. | Excess of births over deaths. |
| 1867† | 4,312 | 449 | ..... | ..... | 14,000 | 4,409 | 31.5 | 9,591 |
| 1868 | 8,697 | 509 | 5.9 | 8,188 | 25,020 | 8,235 | 32.9 | 16,785 |
| 1869 | 8,459 | 493 | 5.8 | 7,966 | 27,093 | 9,145 | 33.8 | 17,948 |
| 1870 | 9,791 | 554 | 5.7 | 9,237 | 26,663 | 10,766 | 40.4 | 15,897 |
| 1871 | 10,605 | 630 | 5.9 | 9,975 | 25,992 | 9,728 | 37.4 | 16,264 |
| 1872 | 10,752 | 620 | 5.8 | 10,132 | 27,993 | 13,371 | 47.8 | 14,622 |
| 1873 | 11,897 | 705 | 5.9 | 11,192 | 34,608 | 14,258 | 41.2 | 20,350 |
| 1874 | 12,255 | 794 | 6.5 | 11,461 | 31,151 | 12,500 | 40.1 | 18,651 |
| 1875 | 11,851 | 864 | 7.3 | 10,987 | 31,958 | 11,990 | 37.5 | 19,968 |
| Average of 5 years, 1871-1875 | 11,472 | 723 | 6.3 | 10,749 | 30,340 | 12,369 | 40.8 | 17,971 |
| 1876 | 11,913 | 800 | 6.7 | 11,113 | 34,235 | 12,576 | 36.7 | 21,659 |
| 1877 | 11,899 | 927 | 7.8 | 10,972 | 33,395 | 12,919 | 38.7 | 20,476 |
| 1878 | 12,880 | 993 | 7.7 | 11,887 | 35,162 | 12,766 | 36.3 | 22,396 |
| 1879 | 13,892 | 1,110 | 8.0 | 12,782 | 34,122 | 14,407 | 42.2 | 19,715 |
| 1880 | 14,985 | 1,149 | 7.7 | 13,786 | 35,323 | 16,102 | 45.6 | 19,221 |
| Average of 5 years, 1876-1880 | 13,104 | 996 | 7.6 | 12,108 | 34,447 | 13,754 | 39.9 | 20,693 |
| 1881 | 15,894 | 1,313 | 8.3 | 14,581 | 34,749 | 19,238 | 55.4 | 15,511 |
| 1882 | 16,830 | 1,335 | 7.9 | 15,495 | 37,026 | 16,425 | 44.4 | 20,601 |
| 1883 | 17,174 | 1,383 | 8.1 | 15,791 | 40,809 | 16,906 | 41.4 | 23,903 |
| 1884 | 15,989 | 1,239 | 7.7 | 14,750 | 40,408 | 18,056 | 44.7 | 22,352 |
| 1885 | 15,885 | 1,227 | 7.7 | 14,658 | 42,119 | 16,646 | 39.5 | 25,473 |
| Average of 5 years, 1881-1885 | 16,354 | 1,299 | 7.9 | 15,055 | 39,022 | 17,454 | 44.7 | 21,568 |
| 1886 | 16,665 | 1,339 | 8.0 | 15,326 | 41,095 | 18,187 | 44.3 | 22,908 |
| 1887 | 17,179 | ..... | ..... | ..... | 46,226 | 19,482 | 42.1 | 26,744 |
| 1888 | 17,297 | ..... | ..... | ..... | 43,952 | 21,764 | 44.5 | 27,188 |
| 1889 | 18,317 | ..... | ..... | ..... | 49,272 | 20,315 | 41.2 | 28,957 |
| 1890 | 18,664 | ..... | ..... | ..... | 52,306 | 21,642 | 41.4 | 30,664 |
| Average of 5 years, 1886-1890 | 17,624 | ..... | ..... | ..... | 47,570 | 20,278 | 42.6 | 27,292 |
| 1891 | 19,244 | ..... | ..... | ..... | 50,812 | 22,079 | 43.5 | 28,733 |
| 1892 | 20,107 | ..... | ..... | ..... | 46,221 | 21,729 | 47.0 | 24,492 |
| Total registration, 1867-1892 | 363,383 | ..... | ..... | ..... | 946,710 | 395,641 | 41.8 | 551,069 |

* From report of United States Labor Commissioner, 1889. Michigan collects no statistics concerning divorces.

† April 5 to December 31, 1867.

The number of marriages in 1892 exceeds the number returned for any previous year. The number of deaths returned is also larger than for any previous year except 1891. The number of births returned shows a great falling-off as compared with the years immediately preceding. This decrease in the number of births returned to the State department is not believed to be due to any marked actual decrease in the number of births that occurred in the State during the year 1892 as compared with the years 1887-91, but to gross frauds in the returns of births from Wayne county for those years.* The return of births for the year 1892 is probably much less affected by such irregularities, and hence shows an apparent decrease as compared with years in which a large number of fictitious births were entered.

The column showing the number of divorces, is inserted to call attention to a most important class of vital statistics, the registration and tabulation of which is entirely omitted in this State. The figures presented are from the report made to Congress in 1889, after a special investigation, by the United States Commissioner of Labor. By comparing the five-year averages it will be seen that the ratio of divorces to marriages is steadily increasing—from 6.3 per cent for 1871-75 to 7.9 per cent for 1881-85. The difference between the number of marriages and divorces shows the number of couples actually added each year to those living in marital relations, and should be considered in studying the relations between marriage- and birth-rates.

* The following table shows the number of marriages, births and deaths returned from Wayne county by the State registration for each of the years 1880-92, together with the populations of the county by the United States censuses of 1880 and 1890, the State census of 1884, and estimates for the inter-census years. Rates per 1,000 population for persons married, births and deaths represent these returns as compared with the enumerated or estimated number of inhabitants of each year:

*Vital statistics of Wayne county as returned, 1880-92.*

| Year. | Populati'n. | Number of marriages. | Number of births. | Number of deaths. | Rates per 1,000. | | |
|---|---|---|---|---|---|---|---|
| | | | | | Persons married. | Births. | Deaths. |
| 1880* | 166,444 | 1,599 | 5,227 | 2,437 | 19.2 | 31.4 | 14.6 |
| 1881 | 172,075 | 1,555 | 4,501 | 2,229 | 18.1 | 26.2 | 13.0 |
| 1882 | 177,705 | 1,576 | 5,099 | 2,454 | 17.7 | 28.7 | 13.8 |
| 1883 | 183,336 | 1,561 | 5,358 | 2,740 | 17.0 | 29.2 | 14.9 |
| 1884* | 188,966 | 1,494 | 6,222 | 3,357 | 15.8 | 32.9 | 17.8 |
| 1885 | 200,324 | 1,506 | 6,561 | 3,522 | 15.0 | 32.8 | 17.6 |
| 1886 | 211,682 | 1,781 | 6,388 | 3,324 | 16.8 | 30.2 | 15.7 |
| 1887 | 223,040 | 2,009 | *10,857* | 3,543 | 18.0 | *48.7* | 15.9 |
| 1888 | 234,398 | 1,967 | *14,046* | 5,301 | 16.8 | *59.9* | 22.6 |
| 1889 | 245,756 | 1,922 | *12,023* | 4,005 | 15.6 | *48.9* | 16.3 |
| 1890* | 257,114 | 2,266 | *17,372* | 5,505 | 17.6 | *67.6* | 21.4 |
| 1891 | 268,472 | 2,285 | *18,632* | 4,594 | 17.0 | *50.8* | 17.1 |
| 1892 | 279,830 | 2,540 | 8,779 | 3,722 | 18.2 | 31.4 | 13.3 |

* Census years.

The marriages in this table are collected in an entirely different manner from the births and deaths, and are probably very nearly correct. They thus furnish a certain criterion of the birth-rates and death-rates, since it is not probable that either of these would rise markedly for a series of years (no epidemic prevailing) without affecting marriages to some extent. The marriage-rates show great uniformity from 1881 to 1892, the range being only 3.4 per 1,000. This constancy practically excludes the supposition that any large increase of population occurred suddenly in any of these years.

The numbers of births returned and the birth-rates based thereon show, on the contrary, a sudden large increase for the year 1887 as compared with any previous year of registration, which increase is continued, with certain large and inexplicable fluctuations (so far as natural causes are concerned) for several years, ending with an abrupt fall from 18,632 births registered for 1891 to 8,779 registered for 1892. The latter was probably the most truthful return since 1886. This view is supported by the results of the immediate registration of births in Detroit since the city board of health undertook their collection in 1893, and by the number of births reported by the United States census for Detroit and Wayne county during the census year ending June 1, 1890. Of the 257,114 inhabitants of Wayne county in 1890, the city of Detroit contained 205,876. The number of births that occur in Detroit per annum, according to the results of actual registration for the last four months of 1893 and the early months of 1894 (a complete registration year has not been completed at this time) would not exceed 5,500. If the same rate obtained for the

POPULATION.

In order that comparisons may be made between the vital statistics of different years, it is necessary to reduce all returns of births, marriages and deaths to expressions proportioned to the number of the inhabitants that supplied them. The customary rates for gross mortality are those stating the number of births, deaths and persons married (twice the number of marriages) that occur yearly for every 1,000 living persons. As this ratio would afford figures inconveniently small when applied to statements of the mortality from individual causes of death, it is customary to employ rates per 10,000, 100,000 or 1,000,000 population for such purposes. In Part IV of this report the ratio 1:100,000 is used, it being very convenient and easily reducible (by changing the decimal point one place to the right or left) to rates per 10,000 or per 1,000,000,—the latter being the standard in the English reports.

The populations of Michigan as given for various years from 1810 to 1890 by the United States censuses, and also the results of the State census enumerations of 1854, 1864, 1874 and 1884, may be seen in Table 3. This table also shows the amount and per cent of increase during each decennium between National and State censuses, separately, and also the gain and per cent of gain of each four- and six-year period lying between adjacent National and State censuses.

From the year 1860 to the present time the decennial per cents of increase of population show a constant decrease. This has been the case, though with less uniformity, in nearly all of the northern central states as grouped in the Compendium of the Eleventh Census, Part I, p. 4. The group consists of Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas, and shows for the four decades per cents of 68.35, 42.70, 33.76 and 28.78, the last being the rate of increase from 1880 to 1890. Michigan is thus seen to have shown a rate of increase (27.92 per cent) but very little below the average for the group, while it exceeds the rate for the United States as a whole (24.86 per cent) for the period 1880–90. Con

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remainder of the county as for Detroit, the entire number of births would be about 7,000. Data supplied from the United States census by Hon. Carroll D. Wright, Commissioner of Labor, in charge of the census (1894), are as follows:

| | *Detroit.* | *Wayne Co., including Detroit.* |
|---|---|---|
| Living population under 1 year of age on June 1, 1890 | 5,443 | 6,770 |
| Born and died during census year | 720 | 779 |
| Total births | 6,163 | 7,549 |

"These figures give a birth-rate, per 1,000 of total population, of 29.94 for Detroit, and 27.05 for Wayne county exclusive of Detroit. They do not include still-births." The birth-rate for Wayne county, including Detroit, for the census year ending June 1, 1890, and based on the estimated population in the middle of that year, 251,435, would be 30.0 per 1,000.

The independent testimony of these extraneous sources of information, together with the internal evidence derived from a study of the variations of the returns for several years, agree in indicating that they have been seriously tampered with. As Wayne county contains over one-tenth of the entire population of the State, we find on examination that the numbers added for births, and possibly for deaths, although the latter do not appear to have been so recklessly sophisticated, are sufficient to very materially affect the rates for the entire State, and thus the labor of registration performed by the supervisors and assessors of the State for several years, is in some measure lost because of dishonesty in a single county. The enumeration of births and deaths for the city of Detroit is performed by persons appointed by the common council, and not responsible to the county clerk or to the State department for the faithful performance of their duties. It would be very desirable if the results of the immediate registration of vital statistics conducted by the city board of health could be utilized in the preparation of these reports, and the returns be made directly from the city board of health to this office, the special enumeration by common council appointees being dispensed with entirely.

In the table for Wayne county given in this note, the numbers and rates that seem especially untrustworthy are indicated by being printed in italics. An attempt is made in the text relating to Tables 5 to eliminate these sources of error and to state the probable numbers for the State as they should have been *returned* for the years 1887–91. This correction is entirely apart from that referred to elsewhere as necessary on account of the deficiency of the returns.

In Table 4 estimates of population for each year since the establishment of the State registration system are given. Two methods are employed, (a) that of using the average annual increase of each census decade as the estimated increase for each year of that decade; and (b) the usually employed formula that assumes an increase of population in geometrical ratio from year to year. The first method is believed to give more satisfactory results for this State at present, and is accordingly used in the calculation of all the rates in the present report. Some of the reasons leading to this choice of methods may be briefly referred to, as stated in the last report (pp. 7–8):

> Between the average annual increments for different decades, as taken from the results of the United States censuses, there exists great uniformity. The average annual increase for 1871–80 is only 407 less than that for 1881–90. Indeed, the average of the thirty years 1861–90 is 44,825 or very nearly that of the last decade of this period. It would seem from this to be very clearly indicated that the population of the State as a whole is increasing at present by very nearly the same number every year, and that any populations estimated by the extension of the observed amount of increase a short period into the future, can be but slightly in error.
>
> * * * * * * * *
>
> The geometrical rate of increase has constantly decreased, being 6.54 per cent for 1850–60, 4.69 per cent for 1860–70, 3.29 per cent for 1870–80, and 2.49 per cent for 1880–90. It will probably not be far from 2 per cent during the present decade. The population of 1891, estimated by adding the average annual increase of the period 1880–90, corresponds to an increase of 2.14 per cent over that of 1890. Thus estimates by either method would be practically identical. For this reason, and also because the population of the first and last years of adjacent census decades would show considerable differences, leading to unwarranted variations in the vital rates computed on them, it was not thought advisable to employ any geometrical estimates of population. The conditions of growth in the State are dependent on other factors than simple natural increase. The absolute increase for ten years, 1870–80, based on a population of 1,184,059, was very nearly as great as that for the period 1880–90, which had an initial population of 1,636,937. This is entirely contrary to the assumption that the amount of increase is proportional to population, and justifies the belief that the average annual increase is closer to the actual increase for each year.

If, however, it be desired to employ the more commonly accepted method for any purpose, the numbers given in the second column will, it is believed, be found accurate. The difference (excess) lies as a rule on the side of the average annual increase, so that the rates as calculated thereon are a little lower than the geometrical rates. The maximum difference occurs in those years most remote from the census years, and, for 1875 as an example, amounted to 18,300. For 10 deaths the following rates per 100,000 would be obtained for that year: (a) .7; (b) .7. For 100 deaths, (a) 7.1; (b) 7.2. For 1,000 deaths, (a) 70.9 and (b) 71.8. There were 11,990 deaths registered for that year. The rates per 1,000 population would be (a) 8.5 and (b) 8.6. These differences lie far within the limits of accuracy warranted by the general character of the returns.

For the years 1891–94 the numbers obtained by using the coefficient of geometrical increase belonging to the previous decade, 1880–90, are evidently too high. The rate of annual increase obtained by estimating the probable increase for the next decade at about 20 per cent, or an annual rate of 1.84 per cent, would give better results. The State census of 1894, which is being taken as this report is going through the press, will be of use in correcting the estimates for the years since 1890. As shown in the last report, comparison of the National and State censuses has not been satisfactory hitherto as regards the establishment of a connected series of vital rates. By the time of the appearance of the next registration report, however, the results of the census of 1894 will be available, and by careful study of them in connection with the censuses of 1880, 1884 and 1890, important facts may probably be ascertained not only in regard to the total increase of population in this State, but also in regard to the changes going on in the age-constitution of the people, variations in sex and nativity, etc., subjects of the greatest interest to the student of the vital statistics of this State.

**Table 5.**—*Number of marriages, births and deaths registered in Michigan from 1867 to 1892, with the excess of births over deaths for each year; also the rates per thousand of persons married, births, deaths and excess of births over deaths for each year based on populations of United States censuses and estimated populations for inter-census years. Averages for the quinquennial periods 1871–75, 1876–80, 1881–85, 1886–90. (Still-births included in both births and deaths.)*

| Years. | Populati'n. | Michigan registration returns, 1867-92. | | | | Rates per thousand of population. | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Number of marriages. | Number of births. | Number of deaths. | Excess of births over deaths. | Persons married. | Births. | Deaths. | Excess of births over deaths. |
| 1867* | 1,053,574 | 4,312 | 14,000 | 4,409 | 9,591 | ..... | ..... | ..... | ..... |
| 1868 | 1,097,070 | 8,697 | 25,020 | 8,285 | 16,735 | 15.9 | 22.8 | 7.5 | 15.3 |
| 1869 | 1,140,564 | 8,459 | 27,093 | 9,145 | 17,948 | 14.8 | 23.8 | 8.0 | 15.8 |
| 1870 | 1,184,059 | 9,791 | 26,663 | 10,766 | 15,897 | 16.5 | 22.5 | 9.1 | 13.4 |
| 1871 | 1,229,347 | 10,605 | 25,992 | 9,728 | 16,264 | 17.3 | 21.1 | 7.9 | 13.2 |
| 1872 | 1,274,635 | 10,752 | 27,998 | 13,371 | 14,622 | 16.9 | 22.0 | 10.5 | 11.5 |
| 1873 | 1,319,922 | 11,897 | 34,608 | 14,258 | 20,350 | 18.0 | 26.2 | 10.8 | 15.4 |
| 1874 | 1,365,210 | 12,255 | 31,151 | 12,500 | 18,651 | 18.0 | 22.8 | 9.2 | 13.6 |
| 1875 | 1,410,498 | 11,851 | 31,958 | 11,990 | 19,968 | 17.4 | 22.7 | 8.5 | 14.2 |
| Av. 1871-75 | 1,319,922 | 11,472 | 30,340 | 12,369 | 17,971 | 17.4 | 23.0 | 9.4 | 13.6 |
| 1876 | 1,455,786 | 11,918 | 34,235 | 12,576 | 21,659 | 16.4 | 23.5 | 8.6 | 14.9 |
| 1877 | 1,501,074 | 11,899 | 33,395 | 12,919 | 20,476 | 15.9 | 22.2 | 8.6 | 13.6 |
| 1878 | 1,546,361 | 12,880 | 35,162 | 12,766 | 22,396 | 16.7 | 22.7 | 8.3 | 14.4 |
| 1879 | 1,591,649 | 13,892 | 34,122 | 14,407 | 19,715 | 17.5 | 21.4 | 9.1 | 12.3 |
| 1880 | 1,636,937 | 14,935 | 35,323 | 16,102 | 19,221 | 18.2 | 21.6 | 9.8 | 11.8 |
| Av. 1876-80 | 1,546,361 | 13,104 | 34,447 | 13,754 | 20,693 | 16.9 | 22.3 | 8.9 | 13.4 |
| 1881 | 1,682,682 | 15,894 | 34,749 | 19,238 | 15,511 | 18.9 | 20.7 | 11.4 | 9.3 |
| 1882 | 1,728,327 | 16,880 | 37,026 | 16,425 | 20,601 | 19.5 | 21.4 | 9.5 | 11.9 |
| 1883 | 1,774,023 | 17,174 | 40,899 | 16,906 | 23,993 | 19.4 | 23.0 | 9.5 | 13.5 |
| 1884 | 1,819,718 | 15,969 | 40,408 | 18,056 | 22,352 | 17.6 | 22.2 | 9.9 | 12.3 |
| 1885 | 1,865,413 | 15,885 | 42,119 | 16,646 | 25,473 | 17.0 | 22.6 | 8.9 | 13.7 |
| Av. 1881-85 | 1,774,023 | 16,354 | 39,022 | 17,454 | 21,568 | 18.4 | 22.0 | 9.8 | 12.2 |
| 1886 | 1,911,108 | 16,665 | 41,095 | 18,187 | 22,908 | 17.4 | 21.5 | 9.5 | 12.0 |
| 1887 | 1,956,803 | 17,179 | 46,226 | 19,482 | 26,744 | 17.6 | 23.6 | 10.0 | 13.6 |
| 1888 | 2,002,499 | 17,297 | 43,952 | 21,764 | 27,188 | 17.3 | 24.4 | 10.9 | 13.5 |
| 1889 | 2,048,194 | 18,317 | 49,272 | 20,315 | 28,957 | 17.9 | 24.1 | 9.9 | 14.2 |
| 1890 | 2,093,889 | 18,664 | 52,306 | 21,642 | 30,664 | 17.8 | 25.0 | 10.3 | 14.7 |
| Av. 1886-90 | 2,002,499 | 17,624 | 47,570 | 20,278 | 27,292 | 17.1 | 23.8 | 10.1 | 13.7 |
| 1891 | 2,139,584 | 19,244 | 50,812 | 22,079 | 28,733 | 18.0 | 23.7 | 10.3 | 13.4 |
| 1892 | 2,185,279 | 20,107 | 46,221 | 21,729 | 24,492 | 18.4 | 21.2 | 9.9 | 11.3 |

* Includes only April 5 to December 31, 1867. This was the first year of State registration, and the returns are not comparable with later years when the system was fully established.

In Table 5 the comparison of registration returns and population is made for each year from 1868 to 1892. Five-year averages are also introduced into this table in the present report, by means of which the tendencies of registration may be more readily observed. The marriage-rates are fairly satisfactory and represent very nearly the actual number of marriages that have occurred in each year of registration. The rates given for births and deaths are very much below the true figures, and should be increased by probably at least 60 per cent to represent the actual birth-rates and death-rates of Michigan. Nevertheless, with the exception of certain irregularities due to fraudulent returns, it is believed that the rates as given in this table may be taken as representative of the *variations* in vital rates from year to year, and thus interesting comparisons are admissible with the *fluctuations* of the birth-rates and death-rates of other States and countries. Any direct comparison of the rates given for Michigan with those obtained where an efficient system of registration exists, is quite out of the question.

The irregularities in the returns from Wayne county, which have been alluded to in discussing Table 2, affect the birth-rates, and to a lesser degree the death-rates, for the years from 1887 to 1891 inclusive. It is impossible to exactly determine the number of these fraudulent returns for each year, but on the assumption that the returns from Wayne county should have been fairly uniform for each year from 1886 to 1892, a deduction can be made in the total number of births and deaths returned in those years for the county and for the State that will probably lead to more correct conclusions when comparisons of the rates based thereon are made with previous years. We shall have, instead of the numbers given in the table, the following estimates for the years 1887-91:—

| | 1887. | 1888. | 1889. | 1890. | 1891. |
|---|---|---|---|---|---|
| Number of births | 42,156 | 42,091 | 44,833 | 42,916 | 45,561 |
| Birth-rate per 1,000 | 21.5 | 21.0 | 21.9 | 20.5 | 21.3 |
| Number of deaths | 19,329 | 19,919 | 19,833 | 19,726 | 21,141 |
| Death-rate per 1,000 | 9.9 | 9.9 | 9.7 | 9.4 | 9.9 |

The average birth-rate for the five-year period 1886-90 would be 21.3 instead of 23.8; the average death-rate 9.7 instead of 10.1; the rate of natural increase, 11.6 per 1,000, not 13.6. The series of birth-rates as altered appears more reasonable than before, there being a decrease in the birth-rate of every State in this country, with only four unimportant exceptions, during the decade 1880-90 as determined by the United States censuses. As printed in the report for last year, and as given in Table 5 of the present report (it being thought unadvisable to change the showing made by the actual returns in that table) the birth-rates for Michigan are quite anomalous, a marked rise being shown. The birth-rate of the State in 1880 by the United States census was 28.0 per 1,000; in 1890 it was 24.8 per 1,000, a fall of 3.2 per 1,000. The birth-rates of 1890 and 1880 as taken from Table 5 show a rise of 3.4 per 1,000; reasonable deduction for fraudulent returns being made, a fall of 1.1 per 1,000 is indicated, a much more probable statement.

Vital rates for census years of both United States and State censuses are given in Table 6. The number of births and deaths are those collected by the census enumerators, and will be found a little in excess of the registration returns for the corresponding years. there being no interval after the close of the year for which the enumeration is made and the work of enumeration in the case of the census as in the supervisors' registration returns. The lapse of four months causes a deficiency of about 25 per

cent in the registration returns as compared with the census returns. The census returns, however, are much too low to adequately represent the true natality or mortality of the State. We have at present no means of knowing exactly what the death-rate of the State is,—it lies probably between the limits 16.5 and 17.5 per 1,000.

**Table 6.**—*Births, deaths, and natural increase in Michigan, with rates per thousand population, according to the United States censuses of 1870, 1880 and 1890, and the State censuses of 1874 and 1884. (Still-births included.)*

| Years. | Population. | Census returns. | | | Rates per 1,000 population. | | |
|---|---|---|---|---|---|---|---|
| | | Births. | Deaths. | Natural increase. | Births. | Deaths. | Natural increase. |
| National census of 1870 | 1,184,059 | 34,530 | 11,181 | 23,349 | 29.2 | 9.4 | 19.8 |
| State census of 1874 | 1,334,031 | ..... | * 14,280 | ..... | ..... | 10.7 | ..... |
| National census of 1880 | 1,636,937 | 45,843 | 19,743 | 26,100 | 28.0 | 12.1 | 15.9 |
| State census of 1884 | 1,853,658 | 53,775 | 19,979 | 33,796 | 29.0 | 10.7 | 18.3 |
| National census of 1890 | 2,093,889 | 51,931 | 25,016 | 26,915 | 24.8 | 11.9 | 12.9 |

* For the calendar year 1873.

In Tables 7, 8 and 9 the marriage-, birth- and death-rates of certain European countries during the years 1880–92 are presented for comparison. The authority is the last English Registrar-General's report. The birth-rates and death-rates for Japan are from the *Sei-i-kwai Medical Journal*, January, 1892. There are also given rates for a few States in this country,—the only ones presenting a connected series of the rates in question for successive years in their registration reports. Those for Massachusetts are taken from a "Standard Table" kindly supplied by Dr. S. W. Abbott, Secretary of the State Board of Health, and are carefully computed to estimated populations for inter-census years. The data for Connecticut and Rhode Island are from the latest registration reports. It cannot be too strongly urged upon the authorities in charge of the preparation of a registration report, that their first duty, after the proper presentation of the primary tables, is to present a connected statement of the numbers of births, marriages (and divorces) and deaths that have occurred in the state or city during the successive years of registration, together with a comparison of such numbers to the numbers of inhabitants in each year. The population will require estimation for the period lying between censuses, and the method by which such estimate is made should be uniform and should always be stated. It should also be stated whether still-births are included or excluded in births and deaths. It would be preferable for some reasons to exclude them uniformly from births and deaths, but to provide a separate column showing the number of still-births returned and the still-birth-rate for each year in convenient form for addition to either the birth-rate or death-rate as may be desired for special purposes.

It is customary in comparing marriage-rates to employ the ratios of persons married, i. e., double the number of marriages, to population, and in Table 7 the figures represent such rates. It will be noted that Michigan has a higher marriage-rate per 1,000 population than any of the European countries except Hungary in certain years. Massachusetts and Rhode Island show generally a slightly higher rate than Michigan. For 1892 the rates were respectively 18.99, 19.1 and 18.4. It is very satisfactory to know

that the statistics of marriages in Michigan creditably represent the State, and that direct comparisons can be made between them and the statistics of other States and countries without appreciable error. They are the only vital statistics in Michigan subject to *immediate registration*—an essential feature in the accurate collection of all vital data—and stand in sharp contrast to the defective and misleading (unless proper allowance be made) birth-rates and death-rates given for the State by the present system of registration of births and deaths.

**Table 7.**—*Persons married per 1,000 living population in certain countries and states during the years 1880–92.*

| Country or State. | 1880. | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 15.3 | 16.0 | 16.4 | 15.7 | 15.7 | 15.2 | 15.6 | 15.6 | 15.8 | 15.0 | 15.1 | 15.4 | 15.6 |
| Belgium | 14.1 | 14.1 | 13.9 | 13.5 | 13.5 | 13.6 | 13.4 | 14.2 | 14.2 | 14.5 | 14.5 | 14.8 | 15.4 |
| Denmark | 15.2 | 15.6 | 15.4 | 15.4 | 15.6 | 15.1 | 14.2 | 14.0 | 14.2 | 14.2 | 13.8 | 13.6 | 13.6 |
| France | 14.9 | 15.0 | 14.8 | 15.0 | 15.3 | 14.9 | 14.8 | 14.5 | 14.4 | 14.2 | 14.0 | 15.0 | 15.2 |
| German Empire | 15.0 | 14.9 | 15.3 | 15.3 | 15.7 | 15.8 | 15.8 | 15.6 | 15.6 | 16.0 | 16.1 | 16.1 | 15.9 |
| Prussia | 15.3 | 15.3 | 15.8 | 15.9 | 16.2 | 16.4 | 16.2 | 16.0 | 16.0 | 16.3 | 16.4 | 16.3 | 16.1 |
| Holland | 15.0 | 14.6 | 14.3 | 14.2 | 14.4 | 13.9 | 13.9 | 14.0 | 13.8 | 13.9 | 14.2 | 14.2 | 14.4 |
| Hungary | 18.3 | 19.9 | 20.6 | 20.9 | 20.6 | 20.0 | 19.3 | 17.9 | 18.7 | 16.3 | 16.4 | 17.2 | ..... |
| Italy | 13.9 | 16.2 | 15.6 | 16.1 | 16.5 | 16.0 | 15.9 | 15.9 | 15.9 | 15.4 | 14.7 | 15.0 | 15.0 |
| Norway | 13.3 | 12.8 | 13.4 | 13.2 | 13.7 | 13.3 | 13.0 | 12.5 | 12.2 | 12.5 | 13.0 | 13.2 | 12.6 |
| Sweden | 12.6 | 12.4 | 12.7 | 12.9 | 13.1 | 13.3 | 12.8 | 12.5 | 11.8 | 12.0 | 12.0 | 11.6 | ..... |
| Switzerland | 13.7 | 13.6 | 13.6 | 13.7 | 13.8 | 13.9 | 13.8 | 14.2 | 14.1 | 14.1 | 14.1 | 14.3 | 14.7 |
| United Kingdom | 13.6 | 14.0 | 14.4 | 14.4 | 14.1 | 13.6 | 13.3 | 13.5 | 13.5 | 14.1 | 14.5 | 14.6 | 14.5 |
| England and Wales | 14.9 | 15.1 | 15.5 | 15.5 | 15.1 | 14.5 | 14.2 | 14.4 | 14.4 | 15.0 | 15.5 | 15.6 | 15.4 |
| Ireland | 7.8 | 8.5 | 8.6 | 8.5 | 9.1 | 8.6 | 8.4 | 8.6 | 8.4 | 9.0 | 8.9 | 9.2 | 9.3 |
| Scotland | 13.2 | 13.9 | 14.1 | 14.1 | 13.6 | 13.1 | 12.6 | 12.7 | 12.8 | 13.3 | 13.7 | 13.9 | 14.1 |
| United States: | | | | | | | | | | | | | |
| Massachusetts | 17.4 | 18.5 | 19.2 | 19.4 | 18.2 | 17.6 | 18.0 | 19.0 | 18.7 | 18.7 | 18.6 | 18.8 | 19.0 |
| Michigan | 18.2 | 18.9 | 19.5 | 19.4 | 17.6 | 17.0 | 17.4 | 17.6 | 17.3 | 17.9 | 17.8 | 18.0 | 18.4 |
| Rhode Island | 20.0 | 19.9 | 19.0 | 18.3 | 17.2 | 16.3 | 17.7 | 18.0 | 18.7 | 17.3 | 18.4 | 18.5 | 19.1 |

Table 8 is of more service in illustrating the trend of natality, the changes in the proportions of births to population, in Europe and this country than for any direct comparisons permissible between the rates given for Michigan and those of other States or countries. The reason for this is the large deficiency in the number of births returned in this State under the present registration law. It is estimated that not more than 60 per cent of the births and deaths that actually occur in the State are returned to the registration office, and consequently the vital rates derived from these returns are much below the truth. For one purpose, however, the uncorrected Michigan rates are useful, and that is to indicate the fluctuations that have occurred from year to year. It is evident that very imperfect rates may serve for this purpose, if only the defective returns bear about the same proportion to the actual number

that occurred from year to year. This may be fairly assumed to be the case, except that for births (to a lesser degree for deaths) the returns for the years 1887–91 were unwarrantably increased by the addition of a large number of fictitious entries from the county of Wayne (Detroit). In the rates given in Table 8, the error arising from this cause has been eliminated, so far as a study of the probable increase of births in that county from 1886 to 1892 will permit, and the rates also differ from those given in Table 5 by the omission of still-births. Although still-births have claims to be included in the total number of births (and also of deaths), the facts that they are not a factor in the natural increase of population, that their exact registration is attended with peculiar difficulties, and that they are omitted in the leading vital statistics reports from both births and deaths, render their omission necessary for purposes of comparison. (It may be said in general that they are included in all other tables of births and deaths in the present and in all preceding Michigan registration reports.)

The birth-rates given in Table 8 for some of the more important countries of Europe are illustrated and compared with the changes in the United States as a whole in Diagram II (Part II), in connection with an abstract of a suggestive article by Dr. Billings, Superintendent of the Vital Statistics of the Eleventh Census, on the "Diminution of the Birth-rate in the United States."

**Table 8.**—*Births registered per 1,000 living population in certain countries and States during the years 1880–92. (Still-births excluded.)*

| Country or State. | 1880. | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 38.0 | 37.7 | 39.1 | 38.2 | 38.4 | 37.4 | 38.0 | 38.2 | 37.9 | 37.9 | 36.7 | 38.1 | 36.2 |
| Belgium | 31.1 | 31.4 | 31.2 | 30.5 | 30.5 | 29.9 | 29.6 | 29.4 | 29.1 | 29.5 | 25.7 | 29.6 | 28.9 |
| Denmark | 31.8 | 32.3 | 32.4 | 31.8 | 33.4 | 32.6 | 32.6 | 32.0 | 31.7 | 31.3 | 30.6 | 31.0 | 29.5 |
| France | 24.5 | 24.9 | 24.8 | 24.8 | 24.8 | 24.2 | 23.9 | 23.5 | 23.1 | 23.0 | 21.8 | 22.6 | 22.1 |
| German Empire | 37.6 | 37.0 | 37.2 | 36.6 | 37.2 | 37.0 | 37.0 | 36.9 | 36.6 | 36.4 | 35.7 | 37.0 | 35.7 |
| Prussia | 37.8 | 37.0 | 37.6 | 37.1 | 37.6 | 37.8 | 37.7 | 37.6 | 37.4 | 37.1 | 36.6 | 37.7 | 36.3 |
| Holland | 35.5 | 35.0 | 35.3 | 34.3 | 34.9 | 34.4 | 34.6 | 33.7 | 33.7 | 33.2 | 32.9 | 33.7 | 32.0 |
| Hungary | 42.8 | 42.9 | 43.8 | 44.7 | 45.6 | 44.7 | 45.5 | 44.1 | 43.8 | 43.7 | 40.3 | 42.3 | ..... |
| Italy | 33.9 | 38.0 | 37.0 | 32.7 | 39.0 | 38.5 | 37.0 | 39.0 | 37.6 | 38.4 | 35.9 | 37 3 | 36.3 |
| Japan | 24.0 | 25.6 | 24.9 | 26.4 | 27.8 | 26.9 | 27.3 | 27.1 | 29.6 | 30.2 | ..... | ..... | ..... |
| Norway | 30.7 | 30.0 | 30.9 | 30.9 | 31.0 | 31.3 | 30.9 | 30.8 | 30.8 | 29.7 | 30.3 | 30.9 | 29.6 |
| Sweden | 29.4 | 29.1 | 29.4 | 28.9 | 30.0 | 29.4 | 29.8 | 29.7 | 28.8 | 27.7 | 28.0 | 28.8 | ..... |
| Switzerland | 29.6 | 29.8 | 28.9 | 28.5 | 28.8 | 27.7 | 27.8 | 27.9 | 27.7 | 27.6 | 26.6 | 28.2 | 28.0 |
| United Kingdom | 32.7 | 32.5 | 32.3 | 32.0 | 32.2 | 31.6 | 31.5 | 30.7 | 30.1 | 30.0 | 29.2 | 30.4 | 29.5 |
| England and Wales | 34.2 | 33.9 | 33.8 | 33.5 | 33.6 | 32.9 | 32.8 | 31.9 | 31.2 | 31.1 | 30.2 | 31.4 | 30.5 |
| Ireland | 24.7 | 24.5 | 24.4 | 23.5 | 23.9 | 23.5 | 23.2 | 23.1 | 22.8 | 22.7 | 22.3 | 23.1 | 22.4 |
| Scotland | 31.6 | 33.7 | 33.4 | 32.7 | 33.7 | 32.7 | 32.9 | 31.8 | 31.3 | 30.9 | 30.2 | 31.2 | 30.7 |
| United States | 31.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 26.7 | ..... | ..... |
| Connecticut | 22.2 | 22.4 | 23.9 | 25.4 | 23.0 | 22.7 | 22.2 | 22.8 | 22.2 | 23.4 | 23.8 | 24.8 | 24.7 |
| Massachusetts | 24.8 | 24.9 | 24.8 | 25.2 | 25.5 | 25.1 | 25.4 | 25.9 | 26.0 | 26.2 | 25.8 | 27.4 | 27.8 |
| Michigan | 21.1 | 20.2 | 20.3 | 22.5 | 21.7 | 22.0 | 21.0 | 21.1 | 20.3 | 21.3 | 19.8 | 20.8 | 20.7 |

**Table 9.**—*Deaths registered per 1,000 living population in certain countries and States during the years 1880-92. (Still-births excluded.)*

| Country or State. | 1880. | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 29.8 | 30.6 | 30.8 | 30.1 | 29.4 | 30.1 | 29.4 | 28.9 | 29.2 | 27.3 | 29.4 | 27.9 | 28.3 |
| Belgium | 22.3 | 20.9 | 20.2 | 20.8 | 20.9 | 20.1 | 21.1 | 19.3 | 20.1 | 19.1 | 20.6 | 21.0 | 21.3 |
| Denmark | 20.4 | 18.3 | 19.3 | 18.4 | 18.4 | 17.9 | 18.2 | 18.3 | 19.7 | 18.6 | 19.0 | 20.0 | 19.4 |
| France | 22.8 | 22.0 | 22.2 | 22.2 | 22.2 | 21.9 | 22.5 | 22.0 | 21.8 | 20.5 | 22.6 | 22.6 | 22.6 |
| German Empire | 26.0 | 25.5 | 25.7 | 25.9 | 26.0 | 25.7 | 26.2 | 24.2 | 23.7 | 23.7 | 24.4 | 23.4 | 24.1 |
| Prussia | 25.5 | 24.9 | 25.4 | 25.6 | 25.7 | 25.4 | 26.1 | 23.8 | 22.8 | 23.2 | 24.1 | 22.9 | 23.4 |
| Holland | 23.5 | 21.5 | 20.7 | 21.3 | 22.2 | 21.0 | 21.8 | 19.7 | 20.4 | 20.1 | 20.5 | 20.7 | 21.0 |
| Hungary | 37.1 | 34.4 | 35.3 | 32.1 | 31.0 | 31.3 | 31.6 | 33.7 | 32.0 | 29.8 | 32.3 | 33.1 | ..... |
| Italy | 30.8 | 27.6 | 27.5 | 27.5 | 26.9 | 27.0 | 28.7 | 28.0 | 27.6 | 25.6 | 26.4 | 26.2 | 26.2 |
| Japan | 16.4 | 18.7 | 18.1 | 17.7 | 18.5 | 22.7 | 24.6 | 19.3 | 19.1 | 20.4 | ..... | ..... | ..... |
| Norway | 15.9 | 16.8 | 15.4 | 17.1 | 16.4 | 16.5 | 16.1 | 16.0 | 16.9 | 17.4 | 17.9 | 17.5 | 17.7 |
| Sweden | 18.1 | 17.7 | 17.4 | 17.3 | 17.5 | 17.8 | 16.6 | 16.1 | 16.0 | 16.0 | 17.1 | 16.8 | ..... |
| Switzerland | 21.9 | 22.4 | 21.9 | 20.4 | 20.2 | 21.3 | 20.7 | 20.2 | 19.9 | 20.3 | 20.9 | 20.8 | 19.8 |
| United Kingdom | 20.4 | 18.7 | 19.3 | 19.6 | 19.4 | 19.1 | 19.2 | 19.0 | 18.1 | 18.1 | 19.4 | 20.0 | 19.0 |
| England and Wales | 20.5 | 18.9 | 19.6 | 19.6 | 19.7 | 19.2 | 19.5 | 19.1 | 18.1 | 18.2 | 19.5 | 20.2 | 19.0 |
| Ireland | 19.8 | 17.5 | 17.3 | 19.2 | 17.5 | 18.4 | 17.8 | 18.2 | 17.9 | 17.4 | 18.2 | 18.4 | 19.4 |
| Scotland | 20.5 | 19.3 | 19.4 | 20.2 | 19.6 | 19.3 | 18.9 | 19.0 | 18.0 | 18.4 | 19.7 | 20.7 | 18.5 |
| United States | 15.1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 14.0 | ..... | ..... |
| Connecticut | 16.7 | 17.4 | 18.7 | 19.1 | 16.6 | 17.6 | 16.2 | 17.0 | 17.1 | 17.0 | 18.3 | 19.2 | 19.0 |
| Massachusetts | 19.8 | 20.1 | 19.9 | 20.1 | 19.4 | 19.6 | 18.6 | 19.9 | 19.9 | 19.2 | 19.4 | 19.6 | 20.5 |
| Michigan | 9.4 | 11.0 | 9.0 | 9.0 | 9.4 | 8.4 | 9.0 | 9.5 | 10.2 | 9.3 | 9.7 | 9.8 | 9.5 |
| Rhode Island | 17.5 | 18.1 | 18.4 | 19.1 | 16.1 | 17.7 | 18.8 | 19.9 | 20.4 | 19.0 | 20.1 | 18.6 | 20.1 |

The first step in the study of the mortality statistics of a State or country is to learn the total, gross or crude death-rate, i. e., the rate per 1,000 of deaths from all causes, at all ages, and of both sexes, to the total population comprising all of these elements. For purposes of internal comparison such rates, assuming the age and sex constitution of the community in question to remain fairly constant, do very well, and by their use the vital rates of successive years may be compared with excellent results. When, however, the statistics of one State or country are to be compared with those of another, it immediately becomes necessary to know in what manner the populations and the vital facts registered are distributed as regards age and sex in order to properly interpret the results. Infants, children under five years of age, and persons of sixty years and upwards show a much greater death-rate per unit of the same class of the population than children over five years, young adults and the middle-aged. At all ages, except the child-bearing period, females show a lower death-rate than males. It is evident, then, that a State into which there was a large immigration of young adults at the healthiest period of life would tend to show a low death-rate; this, however, might be influenced in the reverse direction by the existence of a high birth-rate, causing the presence of an unusually large number of children at years most

susceptible to disease. The contrary condition would occur when young and middle-aged adults emigrated in large numbers, as from Ireland, leaving the aged and infirm to supply a high death-rate. The balancing condition in this case is afforded by the low Irish birth-rate and the consequently small number of children under five, so that the actual death-rate of Ireland is generally lower than that of the United Kingdom.

Practically, however, in spite of the serious misconceptions that may arise from comparing crude vital rates, we have to use these or none, as there are no fixed standards for comparison of the rates of even European countries. The Registrar-General of England, in his last report, says:—

"In previous reports it has been pointed out that as the sex and age distribution of the population varies greatly in different countries, and as the rates largely depend on such distribution, the rates in one country cannot safely be compared with the rates in another, without correction for this difference in the constitution of the several populations.

"In order to allow of fair comparison, it is most desirable that the several countries should agree upon some 'Standard or Life Table population,' that is to say, a population with fixed age and sex distribution, for international use; so that the birth-, marriage- and death-rates for each country may be calculated by this standard. I recommend this suggestion to the notice of the respective governments."

In Part IV of this report, the mortality rates for the principal European countries, and also for such States of this country as have registration systems, are illustrated by a diagram, in which the great differences that exist between many of them are well shown. These differences must not be presumed to be due to differences in actual healthfulness or sanitary efficiency until the factors of sex and age distribution, relative birth-rates, etc., have been properly dealt with. As affecting the rates given for many of the States of this country, defects of the registration systems bear a more prominent place in depressing the recorded death-rates than any of the above, and hence must be considered in discussing nearly all American vital rates.*

Study of Table 10 shows more clearly the nature of the deficiency of the registration returns of births and deaths than it does its original object,—the relation of the several months of the year to each other as regards natural increase of population. Taking the births or deaths of any year, a fairly uniform increase is observed in passing from January to December. The births or deaths in December of any year are always largely in excess of the numbers recorded for the first month (January) of the following registration year. It is needless to point out to any one versed in vital statistics, or to any accurate observer of the births or deaths recorded by immediate registry in those cities of the State where such a system is in operation, that this curious showing is entirely fallacious in point of fact. We have no reliable evidence in the State registration to show whether the early or latter months of the year actually exceed in the number of children born or in the number of deaths that occur in them. It is probably true, as shown by the city registries, the State Board of health sickness statistics (assuming sickness to proceed *pari passu* with mortality), and the evidence of the State census of 1884, the last census for which a statement of deaths by months in Michigan was presented, that the mortality in this State is greater for the month of January than for the month of December. January and December are extreme cases; the other months are affected relatively in different degrees, but, except for adjacent months in the same year or for the same months in different years, comparisons should be made very cautiously.

* In a NOTE at the end of Part I (p. 34), some vital statistics of the Australian Colonies are presented. They are of interest in comparison with the vital rates of America and Europe given in Tables 7, 8 and 9.

**Table 10.**—*Number of births, deaths, and excess of births over deaths registered in Michigan for the years 1887 to 1892, by months, with the average excess of births for the decade 1882-91. (Still-births included in both births and deaths.)*

| | | Total. | Months. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan. | Feb. | Mar. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Unk.* |
| 1887 | Births | 46,226 | 3,132 | 3,150 | 3,987 | 3,896 | 3,960 | 3,666 | 4,011 | 4,266 | 4,241 | 3,944 | 3,765 | 4,058 | 60 |
| | Deaths | 19,482 | 1,249 | 1,274 | 1,535 | 1,599 | 1,473 | 1,405 | 1,915 | 2,055 | 1,916 | 1,699 | 1,554 | 1,743 | 66 |
| | Excess of births | 26,744 | 1,883 | 1,876 | 2,452 | 2,297 | 2,488 | 2,261 | 2,096 | 2,211 | 2,415 | 2,245 | 2,211 | 2,315 | —6 |
| 1888 | Births | 48,952 | 3,531 | 3,516 | 4,099 | 3,953 | 4,214 | 4,133 | 4,223 | 4,514 | 4,415 | 4,205 | 3,811 | 4,193 | 45 |
| | Deaths | 21,764 | 1,416 | 1,585 | 1,865 | 1,909 | 1,858 | 1,627 | 1,789 | 2,169 | 1,978 | 1,848 | 1,642 | 2,012 | 66 |
| | Excess of births | 27,188 | 2,115 | 1,931 | 2,234 | 2,044 | 2,356 | 2,506 | 2,434 | 2,345 | 2,437 | 2,457 | 2,169 | 2,181 | —21 |
| 1889 | Births | 49,272 | 3,840 | 3,104 | 4,001 | 4,057 | 4,238 | 4,050 | 4,252 | 4,526 | 4,382 | 4,292 | 4,231 | 4,646 | 53 |
| | Deaths | 20,315 | 1,409 | 1,266 | 1,676 | 1,585 | 1,454 | 1,389 | 1,677 | 2,214 | 2,025 | 1,894 | 1,712 | 1,951 | 68 |
| | Excess of births | 28,957 | 1,931 | 1,838 | 2,325 | 2,472 | 2,784 | 2,661 | 2,575 | 2,312 | 2,357 | 2,398 | 2,619 | 2,695 | —10 |
| 1890 | Births | 52,306 | 4,130 | 3,718 | 4,356 | 4,407 | 4,568 | 4,318 | 4,397 | 4,651 | 4,517 | 4,219 | 4,223 | 4,765 | 42 |
| | Deaths | 21,642 | 1,745 | 1,599 | 1,776 | 1,807 | 1,704 | 1,638 | 1,849 | 2,032 | 1,892 | 1,808 | 1,739 | 2,027 | 31 |
| | Excess of births | 30,664 | 2,385 | 2,119 | 2,580 | 2,600 | 2,864 | 2,680 | 2,548 | 2,619 | 2,625 | 2,411 | 2,484 | 2,738 | 11 |
| 1891 | Births | 50,812 | 3,629 | 3,534 | 4,345 | 4,238 | 4,465 | 4,078 | 4,298 | 4,702 | 4,646 | 4,340 | 4,098 | 4,391 | 58 |
| | Deaths | 22,079 | 1,486 | 1,385 | 1,774 | 2,074 | 1,732 | 1,560 | 1,678 | 2,147 | 1,973 | 2,011 | 1,860 | 2,351 | 48 |
| | Excess of births | 28,733 | 2,143 | 2,149 | 2,571 | 2,164 | 2,733 | 2,518 | 2,615 | 2,555 | 2,673 | 2,329 | 2,238 | 2,040 | 5 |
| 1892 | Births | 46,221 | 3,226 | 3,315 | 3,745 | 3,928 | 3,977 | 3,681 | 3,929 | 4,168 | 4,085 | 3,918 | 3,853 | 4,344 | 49 |
| | Deaths | 21,729 | 2,152 | 1,687 | 1,735 | 1,878 | 1,700 | 1,481 | 1,678 | 1,942 | 1,802 | 1,892 | 1,788 | 1,949 | 45 |
| | Excess of births | 24,492 | 1,074 | 1,628 | 2,010 | 2,050 | 2,277 | 2,200 | 2,251 | 2,226 | 2,283 | 2,026 | 2,065 | 2,395 | 4 |
| Monthly average of excess of births over deaths for ten years 1882-91 | | 25,752 | 1,834 | 1,806 | 2,192 | 2,172 | 2,360 | 2,255 | 2,252 | 2,231 | 2,242 | 2,159 | 2,082 | 2,177 | —10 |

* The number of deaths returned in unknown months exceeds the number of births so returned for each year, given in the table, except the years 1890-92. For this reason the minus sign (—) is prefixed to the differences and they should be read as the *excess of deaths over births*.

It is perhaps true that the registration of births in the State is more nearly perfect than that of deaths. If this be true, the figures for natural increase of population are more nearly correct than if both were deficient in the same degree. For the twenty years 1871–90, the State gained in population, according to the United States censuses, 909,830. The natural increase for that time by the State registration was 437,623, leaving a remainder of 472,207 persons to be accounted for as increase from immigration or, in part, as unregistered natural increase. For the decade 1881–90, the figures are: total increase of population, 456,952; natural increase registered, 244,301; remainder, immigration or loss by imperfect registration, 212,651. The only thing that appears certain from the defective data is that Michigan is now more dependent upon the natural increase of its population for its growth than it is upon accessions from without.

In Table 11 the total numbers of marriages, persons married, births and deaths are stated according to the sex, color and nativity of the persons registered, together with the corresponding constituents of the population by the last census. The numbers given under nativity in the column of births refer to the nativities of the parents of children born.

The population given in this table is that of the State in June, 1890. The vital statistics are those of the year 1892, and hence an allowance should be made for increase of population in making comparisons. In subsequent portions of this report, such comparisons may be found, and also some discussion of the significance of these data in the light afforded by the examination of the results of previous years of registration.

Table 12 brings into one statement, for the purpose of convenient comparison and reference, the numbers of marriages, births, deaths and the excess of births over deaths returned for each county in the State for the year 1892. Estimated populations are also given for each county based on the average annual increase as shown by the censuses of 1880 and 1890. In some cases, where the conditions of increase have been different since 1890 from those prevailing during the preceding inter-census decade, the figures given may require some correction. For the state as a whole, and for all counties showing an average rate of growth, the estimates are probably sufficiently reliable to preclude any serious errors in the rates based upon them.

The number of marriages recorded for each county represents very nearly the number actually solemnized. A slight deficiency exists in the marriage returns owing to the neglect of clergymen or officiating magistrates to return the certificates of marriage to the county clerks within ten days after the performance of the ceremony as required by law, but few ultimately fail to be recorded, probably not over one per cent of the whole. The marriage-rates (stated, as customary, in terms of persons married, i. e., double the number of marriages, per 1,000 population) show much greater uniformity than the birth-rates or death-rates.

The great variations shown in the rates stated for births and deaths in the different counties depend, however, in many cases more upon the relative accuracy of registration than upon the actual proportions of births or deaths that occur to population. In some counties, notably Gogebic, the rates are very high from the fact that the population was understated by the census of 1890 or that growth has been unusually rapid since that time. Local estimates of population are usually unreliable, the tendency being to overestimation, and as the census of 1894 will afford data for the correction of these vital rates, the ordinary method of estimation for inter-census years has been adhered to even when it was evident that the results required some revision. In the following parts of this report the birth-, marriage- and death-rates will be discussed more in detail for the individual counties.

**Table 11.**—*Statement, by sex, color and nativity, of the births, marriages and deaths returned for 1892, with the corresponding population in 1890.*

| Color, race and nativity. | Sex. | Population by U. S. census of 1890. | Number of marriages returned, 1892. | | *Number of births returned, 1892. § | Number of deaths returned, 1892. |
|---|---|---|---|---|---|---|
| | | | Couples.‡ | Persons married. | | |
| All colors and nativities | Total | 2,093,889 | 20,107 | 40,214 | 46,221 | 21,729 |
| | Males | 1,091,780 | ..... | 20,107 | 24,148 | 11,837 |
| | Females | 1,002,109 | ..... | 20,107 | 21,995 | 9,809 |
| | Unknown | ..... | ..... | ..... | 78 | 83 |
| White | Total | 2,072,884 | 19,894 | 39,789 | 45,938 | 21,395 |
| | Males | 1,080,717 | ..... | 19,894 | 24,002 | 11,659 |
| | Females | 992,167 | ..... | 19,895 | 21,867 | 9,679 |
| | Unknown | ..... | ..... | ..... | 69 | 57 |
| Colored | Total | 21,005 | 213 | 425 | 246 | 279 |
| | Males | 11,063 | ..... | 213 | 128 | 160 |
| | Females | 9,942 | ..... | 212 | 115 | 119 |
| | Unknown | ..... | ..... | ..... | 3 | ..... |
| Unknown color | Total | ..... | ..... | ..... | 37 | 55 |
| Colored. Black | Total | 7,036 | 77 | 150 | 91 | 137 |
| Colored. Mulatto | Total | * 8,187 | 80 | 159 | 41 | 49 |
| Colored. Indian | Total | 5,624 | 56 | 116 | 114 | 93 |
| Colored. Asiatic | Total | † 158 | ..... | ..... | ..... | ..... |
| Native-born | Total | 1,550,009 | 11,368 | 27,285 | 45,266 | 15,653 |
| | Males | 790,703 | ..... | 13,287 | 21,567 | 8,357 |
| | Females | 759,306 | ..... | 13,998 | 23,699 | 7,271 |
| | Unknown | ..... | ..... | ..... | ..... | 55 |
| Foreign-born | Total | 543,880 | 4,073 | 12,418 | 44,941 | 4,915 |
| | Males | 301,077 | ..... | 6,799 | 23,579 | 2,823 |
| | Females | 242,803 | ..... | 5,619 | 21,362 | 2,092 |
| Unknown nativity | Total | ..... | 6 | 511 | 2,235 | 1,131 |

* Includes 1,376 quadroons and 1,222 octoroons.
† Includes 120 Chinese and 38 Japanese.
‡ This column includes only those marriages in which the parties were of the same color or nativity. The fact that mixed marriages (see Part II for particulars) occur, in which the parties are of different colors or nativities, causes the statements by individuals married to differ from those by couples.
§ The statements of nativity in this column refer to the nativity of the parents of the children born in 1892. Thus 21,567 native-born males became fathers (fathers of twins counted twice), 23,579 foreign-born males, etc.

**Table 12.**—*Number of marriages, births, deaths and excess of births over deaths registered in Michigan for the year 1892, by counties, with rates per 1,000 estimated population.*

| State and counties. | Estimated population of Michigan, June, 1892. | Number of marriages registered in 1892. | Number of births registered in 1892. | Number of deaths registered in 1892. | Excess of births over deaths in 1892. | Rates per 1,000 estimated population. | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Persons married. | Births. | Deaths. | Natural increase. |
| State | 2,185,279 | 20,107 | 46,221 | 21,729 | 24,492 | 18.4 | 21.2 | 9.9 | 11.3 |
| Alcona | 5,869 | 40 | 111 | 40 | 71 | 13.6 | 18.9 | 6.8 | 12.1 |
| Alger | 1,348 | 8 | 24 | 10 | 14 | 11.9 | 17.8 | 7.4 | 10.4 |
| Allegan | 39,191 | 361 | 702 | 356 | 346 | 18.4 | 17.9 | 9.1 | 8.8 |
| Alpena | 16,939 | 161 | 459 | 154 | 305 | 19.0 | 27.1 | 9.1 | 18.0 |
| Antrim | 11,449 | 84 | 226 | 87 | 139 | 14.7 | 19.7 | 7.6 | 12.1 |
| Arenac | 6,233 | 50 | 135 | 51 | 84 | 16.0 | 21.7 | 8.2 | 13.5 |
| Baraga | 3,282 | 45 | 91 | 41 | 50 | 27.4 | 27.7 | 12.5 | 15.2 |
| Barry | 23,477 | 217 | 343 | 164 | 179 | 18.5 | 14.6 | 7.0 | 7.6 |
| Bay | 60,664 | 516 | 1,589 | 594 | 945 | 17.0 | 25.4 | 9.8 | 15.6 |
| Benzie | 5,597 | 84 | 98 | 53 | 45 | 30.0 | 17.5 | 9.5 | 8.0 |
| Berrien | 42,185 | 420 | 566 | 314 | 252 | 19.9 | 13.4 | 7.4 | 6.0 |
| Branch | 26,561 | 302 | 312 | 255 | 57 | 22.7 | 11.7 | 9.6 | 2.1 |
| Calhoun | 44,511 | 426 | 742 | 409 | 333 | 19.1 | 16.7 | 9.2 | 7.5 |
| Cass | 20,741 | 188 | 247 | 175 | 72 | 18.1 | 11.9 | 8.4 | 3.5 |
| Charlevoix | 10,600 | 83 | 166 | 75 | 91 | 15.7 | 15.7 | 7.1 | 8.6 |
| Cheboygan | 13,078 | 95 | 301 | 110 | 191 | 14.5 | 23.0 | 8.4 | 14.6 |
| Chippewa | 13,373 | 128 | 267 | 98 | 169 | 19.1 | 20.0 | 7.3 | 12.7 |
| Clare | 8,232 | 68 | 155 | 45 | 110 | 16.5 | 18.8 | 5.5 | 13.3 |
| Clinton | 26,191 | 237 | 482 | 241 | 241 | 18.1 | 18.4 | 9.2 | 9.3 |
| Crawford | 3,322 | 28 | 52 | 23 | 29 | 16.9 | 15.7 | 6.9 | 8.8 |
| Delta | 17,034 | 147 | 484 | 141 | 343 | 17.3 | 28.4 | 8.3 | 20.1 |
| Dickinson | 16,872 | 147 | 548 | 194 | 354 | 17.4 | 32.5 | 11.5 | 21.0 |
| Eaton | 32,268 | 355 | 378 | 288 | 90 | 22.0 | 11.7 | 8.9 | 2.8 |
| Emmet | 9,180 | 105 | 136 | 64 | 72 | 22.9 | 14.8 | 7.0 | 7.8 |
| Genesee | 39,472 | 367 | 603 | 407 | 196 | 18.6 | 15.3 | 10.3 | 5.0 |
| Gladwin | 4,824 | 43 | 67 | 13 | 54 | 17.8 | 13.9 | 2.7 | 11.2 |
| Gogebic | 15,800 | 236 | 678 | 456 | 222 | 29.9 | 42.9 | 28.9 | 14.0 |
| Grand Traverse | 14,341 | 161 | 254 | 136 | 118 | 22.5 | 17.7 | 9.5 | 8.2 |
| Gratiot | 30,014 | 265 | 473 | 188 | 285 | 17.7 | 15.8 | 6.3 | 9.5 |
| Hillsdale | 30,248 | 315 | 393 | 323 | 70 | 20.8 | 13.0 | 10.7 | 2.3 |
| Houghton | 37,973 | 399 | 1,691 | 552 | 1,139 | 21.0 | 44.5 | 14.5 | 30.0 |
| Huron | 30,237 | 281 | 755 | 225 | 530 | 18.6 | 25.0 | 7.4 | 17.6 |
| Ingham | 38,464 | 384 | 699 | 386 | 313 | 20.0 | 18.2 | 10.0 | 8.2 |

**Table 12.—CONTINUED.—*Returns and rates per 1,000 population, 1892.***

| Counties. | Estimated population of Michigan, June, 1892. | Number of marriages registered in 1892. | Number of births registered in 1892. | Number of deaths registered in 1892. | Excess of births over deaths in 1892. | Rates per 1,000 estimated population. | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Persons married. | Births. | Deaths. | Natural increase. |
| Ionia | 32,587 | 339 | 488 | 265 | 223 | 20.8 | 15.0 | 8.1 | 6.9 |
| Iosco | 16,894 | 114 | 283 | 168 | 115 | 13.5 | 16.8 | 9.9 | 6.9 |
| Iron | 4,822 | 47 | 209 | 62 | 147 | 19.5 | 43.3 | 12.9 | 30.4 |
| Isabella | 20,110 | 212 | 442 | 116 | 326 | 21.1 | 21.9 | 5.8 | 16.1 |
| Isle Royal* | 151 | | | | | | | | |
| Jackson | 45,631 | 440 | 662 | 490 | 172 | 19.3 | 14.5 | 10.7 | 3.8 |
| Kalamazoo | 40,259 | 433 | 685 | 433 | 252 | 21.5 | 17.0 | 10.8 | 6.2 |
| Kalkaska | 5,604 | 49 | 106 | 48 | 58 | 17.5 | 18.9 | 8.6 | 10.3 |
| Kent | 117,256 | 1,242 | 2,551 | 1,321 | 1,230 | 21.2 | 21.8 | 11.3 | 10.5 |
| Keweenaw | 2,618 | 32 | 117 | 52 | 65 | 24.4 | 44.7 | 19.9 | 24.8 |
| Lake | 7,159 | 49 | 94 | 28 | 66 | 13.7 | 13.1 | 3.9 | 9.2 |
| Lapeer | 29,027 | 287 | 377 | 197 | 180 | 19.8 | 13.0 | 6.8 | 6.2 |
| Leelanaw | 8,282 | 62 | 194 | 52 | 142 | 15.0 | 23.4 | 6.3 | 17.1 |
| Lenawee | 48,470 | 421 | 583 | 412 | 171 | 17.4 | 12.0 | 8.5 | 3.5 |
| Livingston | 20,580 | 183 | 250 | 166 | 84 | 17.8 | 12.1 | 8.1 | 4.0 |
| Luce | 2,947 | 24 | 40 | 24 | 16 | 16.3 | 13.6 | 8.1 | 5.5 |
| Mackinac | 8,816 | 51 | 125 | 43 | 82 | 11.6 | 14.2 | 4.9 | 9.3 |
| Macomb | 31,851 | 243 | 592 | 335 | 257 | 15.3 | 18.6 | 10.5 | 8.1 |
| Manistee | 26,570 | 229 | 732 | 204 | 528 | 17.2 | 27.5 | 7.7 | 19.8 |
| Manitou | 766 | 2 | 7 | 2 | 5 | 5.2 | 9.1 | 2.6 | 6.5 |
| Marquette | 40,722 | 396 | 1,526 | 574 | 952 | 19.4 | 37.5 | 14.1 | 23.4 |
| Mason | 17,649 | 172 | 454 | 151 | 303 | 19.5 | 25.7 | 8.6 | 17.1 |
| Mecosta | 20,841 | 190 | 357 | 126 | 231 | 18.2 | 17.1 | 6.0 | 11.1 |
| Menominee | 23,218 | 162 | 657 | 174 | 483 | 14.0 | 28.3 | 7.5 | 20.8 |
| Midland | 11,409 | 90 | 205 | 89 | 116 | 15.8 | 18.0 | 7.8 | 10.2 |
| Missaukee | 5,748 | 45 | 164 | 47 | 117 | 15.7 | 28.5 | 8.2 | 20.3 |
| Monroe | 32,079 | 327 | 609 | 296 | 313 | 20.4 | 19.0 | 9.2 | 9.8 |
| Montcalm | 32,535 | 277 | 539 | 241 | 298 | 17.0 | 16.6 | 7.4 | 9.2 |
| Montmorency | 1,785 | 13 | 31 | 6 | 25 | 14.6 | 17.4 | 3.4 | 14.0 |
| Muskegon | 42,699 | 331 | 1,023 | 449 | 574 | 15.5 | 24.0 | 10.5 | 13.5 |
| Newaygo | 21,634 | 169 | 313 | 116 | 197 | 15.6 | 14.5 | 5.4 | 9.1 |
| Oakland | 41,187 | 329 | 512 | 445 | 67 | 16.0 | 12.4 | 10.8 | 1.6 |
| Oceana | 16,498 | 115 | 301 | 87 | 214 | 13.9 | 18.2 | 5.3 | 12.9 |
| Ogemaw | 6,317 | 40 | 108 | 32 | 76 | 12.7 | 17.1 | 5.1 | 12.0 |
| Ontonagon | 3,994 | 40 | 68 | 20 | 48 | 20.0 | 17.0 | 5.0 | 12.0 |

* Not organized.

**Table 12.—CONCLUDED.—*Returns and rates per 1,000 population.***

| Counties. | Estimated population of Michigan, June, 1892. | Number of marriages registered in 1892. | Number of births registered in 1892. | Number of deaths registered in 1892. | Excess of births over deaths in 1892. | Rates per 1,000 estimated population. | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Persons married. | Births. | Deaths. | Natural increase. |
| Osceola | 15,400 | 119 | 314 | 101 | 213 | 15.5 | 20.4 | 6.6 | 13.8 |
| Oscoda | 2,192 | 14 | 31 | 12 | 19 | 12.8 | 14.1 | 5.5 | 8.6 |
| Otsego | 4,732 | 42 | 52 | 33 | 19 | 17.8 | 11.0 | 7.0 | 4.0 |
| Ottawa | 35,804 | 280 | 824 | 351 | 473 | 15.6 | 23.0 | 9.8 | 13.2 |
| Presque Isle | 5,001 | 28 | 166 | 32 | 134 | 11.2 | 33.2 | 6.4 | 26.8 |
| Roscommon | 2,147 | 9 | 39 | 13 | 26 | 8.4 | 18.2 | 6.1 | 12.1 |
| Saginaw | 86,909 | 727 | 1,918 | 1,087 | 831 | 16.7 | 22.1 | 12.5 | 9.6 |
| Sanilac | 33,839 | 277 | 699 | 287 | 412 | 16.4 | 20.7 | 8.5 | 12.2 |
| Schoolcraft | 6,804 | 82 | 144 | 46 | 98 | 24.1 | 21.2 | 6.8 | 14.4 |
| Shiawassee | 31,730 | 357 | 441 | 184 | 257 | 22.5 | 13.9 | 5.8 | 8.1 |
| St. Clair | 53,287 | 502 | 1,040 | 575 | 465 | 18.8 | 19.5 | 10.8 | 8.7 |
| St. Joseph | 25,102 | 211 | 341 | 315 | 26 | 16.8 | 13.6 | 12.5 | 1.1 |
| Tuscola | 33,862 | 248 | 542 | 219 | 323 | 14.6 | 16.0 | 6.5 | 9.5 |
| Van Buren | 30,487 | 273 | 448 | 286 | 162 | 17.9 | 14.7 | 9.4 | 5.3 |
| Washtenaw | 42,282 | 362 | 585 | 436 | 149 | 17.1 | 13.8 | 10.3 | 3.5 |
| Wayne | 275,246 | 2,540 | 8,779 | 3,722 | 5,057 | 18.5 | 31.9 | 13.5 | 18.4 |
| Wexford | 12,170 | 135 | 277 | 91 | 186 | 22.2 | 22.8 | 7.5 | 15.3 |

Although Table 13 appears for the first time in these reports, its form is such as to render it of great practical value for the purpose of detecting any deficiencies or irregularities of registration in the several counties as they may occur from year to year. An example of this use is afforded in the present case in the matter of the number of deaths returned from Wayne county. This subject has been already sufficiently referred to under Tables 2 and 5, and is only alluded to in this connection for the purpose of observing that the abrupt fall of 4,853 births and 872 deaths for the county of Wayne from the year 1891 to 1892, would inevitably attract attention to the matter even if it had not been previously observed. Had such a table been found in the previous reports, it is safe to say that the gross irregularities in this county extending from 1887 to 1891, would have been sooner detected.

As the State is increasing in population from year to year, there would normally be shown an increase in each class of vital statistics for 1892 as compared with 1891. There is an increase of 876 in the number of marriages returned (a portion of which, undoubtedly, is due to greater care in obtaining delinquent returns), but the births show a decrease of 4,591 and the deaths of 350 for the State. If, however, we exclude Wayne county from consideration for reasons already stated, we find that the remainder of the State shows an increased number of births (262), and also an increase in deaths (522).

**Table 13.**—*Comparing, by counties, the total number of marriages, births and deaths registered in Michigan for the years 1891-92; showing also the increase (or decrease) of the number registered for 1892 as compared with that of the preceding year. (Still-births included in births and deaths.)*

| State and counties. | Marriages. | | | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|---|---|---|
| | Number in 1892. | Number in 1891. | *Increase over 1891. | Number in 1892. | Number in 1891. | *Increase over 1891. | Number in 1892. | Number in 1891. | *Increase over 1891. |
| State | 20,107 | 19,231 | 876 | 46,221 | 50,812 | —4,591 | 21,729 | 22,079 | —350 |
| Alcona | 40 | 40 | ..... | 111 | 83 | 28 | 40 | 25 | 15 |
| Alger | 8 | 8 | ..... | 24 | 10 | 14 | 10 | 2 | 8 |
| Allegan | 361 | 351 | 10 | 702 | 752 | —50 | 356 | 455 | —99 |
| Alpena | 161 | 148 | 13 | 459 | 503 | —44 | 154 | 150 | 4 |
| Antrim | 84 | 104 | —20 | 226 | 230 | —4 | 87 | 76 | 11 |
| Arenac | 50 | 46 | 4 | 135 | 135 | ..... | 51 | 31 | 20 |
| Baraga | 45 | 36 | 9 | 91 | 96 | —5 | 41 | 38 | 3 |
| Barry | 217 | 212 | 5 | 343 | 394 | —51 | 164 | 181 | —17 |
| Bay | 516 | 508 | 8 | 1,539 | 1,637 | —98 | 594 | 534 | 60 |
| Benzie | 84 | 60 | 24 | 98 | 138 | —40 | 53 | 58 | —5 |
| Berrien | 420 | 425 | —5 | 566 | 565 | 1 | 314 | 322 | —8 |
| Branch | 302 | 245 | 57 | 312 | 426 | —114 | 255 | 261 | —6 |
| Calhoun | 426 | 414 | 12 | 742 | 605 | 137 | 409 | 355 | 54 |
| Cass | 188 | 210 | —22 | 247 | 297 | —50 | 175 | 151 | 24 |
| Charlevoix | 83 | 84 | —1 | 166 | 162 | 4 | 75 | 73 | 2 |
| Cheboygan | 95 | 89 | 6 | 301 | 285 | 16 | 110 | 90 | 20 |
| Chippewa | 128 | 117 | 11 | 267 | 226 | 41 | 98 | 79 | 19 |
| Clare | 68 | 71 | —3 | 155 | 157 | —2 | 45 | 61 | —16 |
| Clinton | 237 | 246 | —9 | 482 | 473 | 9 | 241 | 218 | 23 |
| Crawford | 28 | 24 | 4 | 52 | 50 | 2 | 23 | 9 | 14 |
| Delta | 147 | 159 | —12 | 484 | 427 | 57 | 141 | 172 | —31 |
| Dickinson | 147 | 41 | 106 | 548 | 557 | —9 | 194 | 224 | —30 |
| Eaton | 355 | 326 | 29 | 378 | 475 | —97 | 288 | 334 | —46 |
| Emmet | 105 | 90 | 15 | 136 | 132 | 4 | 64 | 117 | —53 |
| Genesee | 367 | 355 | 12 | 603 | 585 | 18 | 407 | 384 | 23 |
| Gladwin | 43 | 46 | —3 | 67 | 19 | 48 | 13 | 6 | 7 |
| Gogebic | 236 | 164 | 72 | 678 | 501 | 177 | 456 | 232 | 224 |
| Gd. Traverse | 161 | 149 | 12 | 254 | 296 | —42 | 136 | 164 | —28 |
| Gratiot | 265 | 275 | —10 | 473 | 486 | —13 | 188 | 201 | —13 |
| Hillsdale | 315 | 270 | 45 | 393 | 394 | —1 | 323 | 291 | 32 |
| Houghton | 399 | 419 | —20 | 1,691 | 1,530 | 161 | 552 | 490 | 62 |
| Huron | 281 | 261 | 20 | 755 | 792 | —37 | 225 | 217 | 8 |
| Ingham | 384 | 390 | —6 | 699 | 601 | 98 | 386 | 407 | —21 |

* In many cases, which are indicated by the minus sign (—), a decrease is shown for 1892 as compared with the preceding year.

**Table 13.**—CONTINUED.—*Returns of 1891 and 1892 compared.*

| Counties. | Marriages. | | | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|---|---|---|
| | Number in 1892. | Number in 1891. | *Increase over 1891. | Number in 1892. | Number in 1891. | *Increase over 1891. | Number in 1892. | Number in 1891. | *Increase over 1891. |
| Ionia | 339 | 311 | 28 | 488 | 531 | —43 | 265 | 235 | 30 |
| Iosco | 114 | 108 | 6 | 288 | 319 | —36 | 168 | 149 | 19 |
| Iron† | 47 | 37 | 10 | 209 | | 209 | 62 | | 62 |
| Isabella | 212 | 180 | 32 | 442 | 389 | 53 | 116 | 161 | —45 |
| Jackson | 440 | 391 | 49 | 662 | 602 | 60 | 490 | 403 | 87 |
| Kalamazoo | 433 | 402 | 31 | 685 | 748 | —63 | 433 | 446 | —13 |
| Kalkaska | 49 | 56 | —7 | 106 | 126 | —20 | 48 | 56 | —8 |
| Kent | 1,242 | 1,287 | —45 | 2,551 | 2,349 | 202 | 1,321 | 1,239 | 82 |
| Keweenaw | 32 | 22 | 10 | 117 | 134 | —17 | 52 | 75 | —23 |
| Lake | 49 | 40 | 9 | 94 | 86 | 8 | 28 | 19 | 9 |
| Lapeer | 287 | 251 | 36 | 377 | 470 | —93 | 197 | 223 | —26 |
| Leelanau | 62 | 61 | 1 | 194 | 197 | —3 | 52 | 62 | —10 |
| Lenawee | 421 | 392 | 29 | 583 | 708 | —125 | 412 | 465 | —53 |
| Livingston | 183 | 152 | 31 | 250 | 315 | —65 | 166 | 194 | —28 |
| Luce | 24 | 30 | —6 | 40 | 58 | —18 | 24 | 9 | 15 |
| Mackinac | 51 | 71 | —20 | 125 | 70 | 55 | 43 | 17 | 26 |
| Macomb | 243 | 255 | —12 | 592 | 587 | 5 | 335 | 334 | 1 |
| Manistee | 229 | 211 | 18 | 732 | 627 | 105 | 204 | 288 | —84 |
| Manitou | 2 | 1 | 1 | 7 | 12 | —5 | 2 | 10 | —8 |
| Marquette | 396 | 468 | —72 | 1,526 | 1,244 | 282 | 574 | 608 | —34 |
| Mason | 172 | 131 | 41 | 454 | 418 | 36 | 151 | 178 | —27 |
| Mecosta | 190 | 181 | 9 | 357 | 380 | —23 | 126 | 163 | —37 |
| Menominee | 162 | 233 | —71 | 657 | 554 | 103 | 174 | 144 | 30 |
| Midland | 90 | 104 | —14 | 205 | 288 | —83 | 89 | 98 | —9 |
| Missaukee | 45 | 61 | —16 | 164 | 147 | 17 | 47 | 41 | 6 |
| Monroe | 327 | 308 | 19 | 609 | 737 | —128 | 296 | 307 | —11 |
| Montcalm | 277 | 299 | —22 | 539 | 596 | —57 | 241 | 251 | —10 |
| Montmorency | 13 | 6 | 7 | 31 | 18 | 13 | 6 | 7 | —1 |
| Muskegon | 331 | 382 | —51 | 1,023 | 1,064 | —41 | 449 | 432 | 17 |
| Newaygo | 169 | 169 | | 313 | 374 | —61 | 116 | 139 | —23 |
| Oakland | 329 | 288 | 41 | 512 | 513 | —1 | 445 | 399 | 46 |
| Oceana | 115 | 114 | 1 | 301 | 295 | 6 | 87 | 131 | —44 |
| Ogemaw | 40 | 46 | —6 | 108 | 105 | 3 | 32 | 29 | 3 |
| Ontonagon | 40 | 33 | 7 | 68 | 61 | 7 | 20 | 20 | |
| Osceola | 119 | 135 | —16 | 314 | 346 | —32 | 101 | 135 | —34 |
| Oscoda | 14 | 12 | 2 | 31 | 34 | —3 | 12 | 6 | 6 |
| Otsego | 42 | 36 | 6 | 52 | 67 | —15 | 33 | 41 | —8 |
| Ottawa | 280 | 245 | 35 | 824 | 841 | —17 | 351 | 316 | 35 |

many cases, which are indicated by the minus sign (—), a decrease is shown for 1892 as compa preceding year. † No returns of births and deaths were made for 1891.

**Table 13.**—CONCLUDED.—*Returns of 1891 and 1892 compared.*

| Counties. | Marriages. | | | Births. | | | Deaths. | | |
|---|---|---|---|---|---|---|---|---|---|
| | Number in 1892. | Number in 1891. | *Increase over 1891. | Number in 1892. | Number in 1891. | *Increase over 1891. | Number in 1892. | Number in 1891. | *Increase over 1891. |
| Presque Isle | 28 | 30 | —2 | 166 | 122 | 44 | 32 | 41 | —9 |
| Roscommon | 9 | 16 | —7 | 39 | 25 | 14 | 13 | 6 | 7 |
| Saginaw | 727 | 691 | 36 | 1,918 | 2,010 | —92 | 1,087 | 931 | 156 |
| Sanilac | 277 | 220 | 57 | 699 | 777 | —78 | 287 | 269 | 18 |
| Schoolcraft | 82 | 73 | 9 | 144 | 97 | 47 | 46 | 32 | 14 |
| Shiawassee | 357 | 307 | 50 | 441 | 434 | 7 | 184 | 194 | —10 |
| St. Clair | 502 | 488 | 14 | 1,040 | 1,124 | —84 | 575 | 530 | 45 |
| St. Joseph | 211 | 229 | —18 | 341 | 365 | —24 | 315 | 274 | 41 |
| Tuscola | 248 | 252 | —4 | 542 | 558 | —16 | 219 | 221 | —2 |
| Van Buren | 273 | 273 | ---------- | 448 | 452 | —4 | 286 | 276 | 10 |
| Washtenaw | 362 | 355 | 7 | 585 | 534 | 51 | 436 | 401 | 35 |
| Wayne | 2,540 | 2,285 | 255 | 8,779 | 13,632 | —4,853 | 3,722 | 4,594 | —872 |
| Wexford | 135 | 120 | 15 | 277 | 303 | —26 | 91 | 72 | 19 |

* In many cases, which are indicated by the minus sign (—), a decrease is shown for 1892 as compared with the preceding year.

Four counties, Alcona, Alger, Newaygo and Van Buren, report the same number of marriages as in 1891. The largest amounts of increase in the number of marriages solemnized are shown for the counties of Branch, Dickinson, Gogebic, Hillsdale, Jackson, Mason, Oakland, Sanilac and Wayne. The largest amounts of decrease are shown by the counties of Kent, Marquette, Menominee and Muskegon.

Arenac county returned the same number of births in 1892 as in 1891. Calhoun, Gogebic, Houghton, Kent, Manistee, Marquette and Menominee show considerably increased numbers of births; Bay, Branch, Eaton, Lapeer, Lenawee, Monroe, Saginaw, Sanilac, St. Clair and Wayne counties show large decreases. The county of Iron, which made no report of births or deaths in 1891, returned 209 births and 62 deaths for the year 1892.

One county, Ontonagon, reported the same number of deaths for 1892 as for 1891. The following showed largely increased numbers: Bay, Calhoun, Gogebic, Houghton Jackson, Kent, Oakland and Saginaw. Fewer deaths were reported, by a considerable number, from Allegan, Eaton, Emmet, Isabella, Lenawee, Manistee and Wayne counties.

In many cases an increase in the number of marriages returned from a county is associated with a marked decrease in the number of births or deaths returned. This is suggestive, in some cases, of failure to make as full and correct enumerations as in the preceding year, rather than to peculiar relations of the vital statistics of the counties in question. The contrary condition, a fall in the number of marriages with a large increase of the number of births or deaths returned, is suggestive of the greater completeness of the enumeration for 1892, as compared with that for the preceding year. Large gains in all classes of returns, as in Gogebic county, would indicate that the population has been materially augmented since the preceding year.

Table 14 presents varied and valuable information concerning the State, selected especially for the light it throws upon the vital statistics returned from many counties. The sources of the data are chiefly the Bulletins and Compendium of the last United States census; for the statements relative to the principal products and industries, the last edition of "The Resources of Michigan," issued by this department in 1893, has been followed.

The bearing of the data here given upon the subject of vital statistics is important in many ways. The movement of population may be taken as the net result of the excess of births over deaths for the period of ten years between the last two National censuses, plus the amount of increase from immigration, and also, it must be said with regret, plus a certain amount of unregistered natural increase arising from the failure to fully collect all the births and deaths that actually occurred in the State. In many counties, as was pointed out in detail in the last report, the population showed a decrease during the inter-census period. In others, among them many of the oldest and most thickly settled portions of the State, a slight increase was observed on the whole, but due entirely to the growth of the cities contained in them. The city populations being removed, the rural population of twenty-four counties (see Exhibit H, *d*, p. 26, Vital Statistics Report of 1891), representing over a quarter of the total population of the State (694,194 in 1890), showed an average decrease of 4.66 per cent. In estimating populations for the purpose of comparing vital rates in inter-census years, these facts must be considered.

The predominance of males in Michigan is in marked contrast to the relative numbers of the sexes in the Eastern States. The ratio in 1890, 109 males for every 100 females, is also about the same as the proportion of male births to female births. The ratio of deaths of males is higher, being about 118 to 100 in recent years, and thus there would appear to be a tendency to equalization of the sexes, providing the disturbing effect of the greater immigration of males be removed. In comparing the birth-rates of the several counties, as stated in Table 12, the proportions of females constituting their populations should be considered. Thus the birth-rates of the counties of Alcona and Allegan were, respectively, 18.9 and 17.9 per 1,000 total population. But the females in Alcona county only number about two-thirds as many as the males, while the proportions are nearly equal in Allegan county. Consequently, the birth-rate is higher per 1,000 female inhabitants for Alcona county, as compared with Allegan, than the figures based on total population would indicate. The true method of comparison is by stating the rate of births per 1,000 women of child-bearing ages, 15–44, but data for such comparisons are not yet at hand.

The numbers of the native-born and foreign-born inhabitants in the several counties are also of interest in comparison with the statements of the births, marriages and deaths of the corresponding nativities given in Parts II, III and IV of this report. About three-fourths of the inhabitants of the State are native-born, i. e., born in the United States, and only one-fourth were born in foreign countries, including a large number, 181,416, in Canada. The deaths returned show somewhat similar proportions by nativity, but the number of births to foreign-born parents, and the number of marriages of foreign-born couples, are nearly or quite equal to those of the native-born.

The numbers of dwellings and families, and the density of population in the several counties, are of interest from their relations to the birth-rates and death-rates recorded. Density of population is an important factor in demography, and close relations are discoverable between it and total mortality, and especially to mortality from infectious diseases. The products and industries affect the mortality of the people of the different counties, and are also of interest for comparison with the list of casualties given in Part IV.

**Table 14.**—*Increase of population in Michigan from 1880 to 1890, by counties, with families, density of population, and principal*

| State and counties. | Movement of population, 1880 to 1890. | | | | Sex, 1890. | | Nativity, 1890. | |
|---|---|---|---|---|---|---|---|---|
| | 1890. | 1880. | Increase or decrease. | Per cent. | Males. | Females. | Native-born. | Foreign-born. |
| State | 2,093,889 | 1,636,937 | 456,952 | 27.92 | 1,091,780 | 1,002,109 | 1,550,009 | 543,880 |
| Alcona | 5,409 | 3,107 | 2,302 | 74.09 | 3,226 | 2,183 | 2,859 | 2,550 |
| Alger | 1,238 | 690 | 548 | 79.42 | 832 | 406 | 657 | 581 |
| Allegan | 38,961 | 37,815 | 1,146 | 3.03 | 20,015 | 18,946 | 33,486 | 5,475 |
| Alpena | 15,581 | 8,789 | 6,792 | 77.28 | 8,182 | 7,399 | 8,251 | 7,330 |
| Antrim | 10,413 | 5,237 | 5,176 | 98.84 | 5,678 | 4,735 | 7,746 | 2,667 |
| Arenac | 5,683 | 2,931 | 2,752 | 93.89 | 3,048 | 2,635 | 3,594 | 2,089 |
| Baraga | 3,086 | 1,804 | 1,282 | 68.29 | 1,755 | 1,281 | 1,756 | 1,280 |
| Barry | 23,783 | 25,317 | a 1,534 | a 6.06 | 12,427 | 11,356 | 21,794 | 1,989 |
| Bay | 56,412 | 35,150 | 21,262 | 60.49 | 29,602 | 26,810 | 34,909 | 21,503 |
| Benzie | 5,237 | 3,433 | 1,804 | 52.55 | 2,807 | 2,430 | 4,096 | 1,141 |
| Berrien | 41,285 | 36,785 | 4,500 | 12.23 | 20,939 | 20,346 | 35,470 | 5,815 |
| Branch | 26,791 | 27,941 | a 1,150 | a 4.12 | 13,461 | 13,330 | 25,086 | 1,705 |
| Calhoun | 43,501 | 38,452 | 5,049 | 13.13 | 21,791 | 21,710 | 38,579 | 4,922 |
| Cass | 20,953 | 22,009 | a 1,056 | a 4.80 | 10,801 | 10,152 | 19,816 | 1,137 |
| Charlevoix | 9,686 | 5,115 | 4,571 | 89.36 | 5,172 | 4,514 | 7,286 | 2,400 |
| Cheboygan | 11,986 | 6,524 | 5,462 | 83.72 | 6,508 | 5,478 | 7,506 | 4,480 |
| Chippewa | 12,019 | 5,248 | 6,771 | 129.02 | 6,606 | 5,413 | 5,212 | 6,807 |
| Clare | 7,558 | 4,187 | 3,371 | 80.51 | 4,286 | 3,272 | 5,473 | 2,085 |
| Clinton | 26,509 | 28,100 | a 1,591 | a 5.66 | 13,518 | 12,991 | 23,604 | 2,905 |
| Crawford | 2,962 | 1,159 | 1,803 | 155.57 | 1,885 | 1,077 | 1,967 | 995 |
| Delta | 15,390 | 6,812 | 8,578 | 125.04 | 8,849 | 6,481 | 8,948 | 6,382 |
| Dickinson † | | | | | | | | |
| Eaton | 32,094 | 31,225 | 869 | 2.78 | 16,274 | 15,820 | 30,252 | 1,842 |
| Emmet | 8,756 | 6,639 | 2,117 | 31.89 | 4,515 | 4,241 | 7,263 | 1,493 |
| Genesee | 39,490 | 39,220 | 210 | 0.54 | 19,946 | 19,484 | 33,790 | 5,700 |
| Gladwin | 4,208 | 1,127 | 3,081 | 273.38 | 2,553 | 1,655 | 2,714 | 1,494 |
| Gogebic * | 13,166 | | 13,166 | | 8,690 | 4,476 | 5,854 | 7,312 |
| Grand Traverse | 13,355 | 8,422 | 4,933 | 58.57 | 7,164 | 6,191 | 10,269 | 3,086 |
| Gratiot | 28,668 | 21,936 | 6,732 | 30.69 | 14,902 | 13,766 | 26,091 | 2,577 |
| Hillsdale | 30,660 | 32,723 | a 2,063 | a 6.30 | 15,341 | 15,319 | 28,878 | 1,782 |
| Houghton | 35,389 | 22,473 | 12,916 | 57.47 | 19,553 | 15,836 | 18,571 | 16,818 |
| Huron | 28,545 | 20,089 | 8,456 | 42.09 | 14,896 | 13,649 | 16,176 | 12,369 |
| Ingham | 37,666 | 33,676 | 3,990 | 11.85 | 19,409 | 18,257 | 33,190 | 4,476 |
| Ionia | 32,801 | 33,872 | a 1,071 | a 3.16 | 16,819 | 15,982 | 29,140 | 3,661 |

a Decrease. * Not formed in 1880. † Not formed in 1890.

*statement of important conditions in 1890, as sex, nativity, number of dwellings and products and industries of each county.*

| Dwellings and families, 1890. | | | | Density of population,—persons to square mile. | Chief products and industries. |
|---|---|---|---|---|---|
| Total dwellings. | Total families. | Persons to a dwelling. | Persons to a family. | | |
| 434,370 | 455,004 | 4.82 | 4.60 | 36.5 | |
| 988 | 1,009 | 5.47 | 5.36 | 8.0 | Lumber and farm products. |
| 226 | 230 | 5.48 | 5.38 | 1.3 | Lumber, building stone, charcoal and fisheries. |
| 8,809 | 9,010 | 4.42 | 4.32 | 47.1 | Farm products, fruit, peppermint, lumber, paper and woolen mills. |
| 2,828 | 3,123 | 5.51 | 4.99 | 26.9 | Lumber, farm products and fisheries. |
| 2,224 | 2,286 | 4.66 | 4.56 | 21.7 | Lumber, bark, charcoal and farm products. |
| 1,164 | 1,177 | 4.88 | 4.83 | 15.5 | Lumber, farm products, manufactures and fisheries. |
| 536 | 557 | 5.66 | 5.45 | 3.3 | Lumber, building stone, slate and farm products. |
| 5,586 | 5,756 | 4.26 | 4.13 | 43.1 | Farming products, fruits and manufactures. |
| 10,718 | 11,188 | 5.26 | 5.04 | 126.3 | Lumber, ship building, manufactures and fisheries. |
| 1,072 | 1,106 | 4.89 | 4.73 | 16.4 | Lumber and fruit. |
| 9,135 | 9,517 | 4.49 | 4.34 | 72.7 | Farm products, fruit, manufactures and fisheries. |
| 6,639 | 6,802 | 4.04 | 3.94 | 53.5 | Farm products, dairying and stock. |
| 9,965 | 10,576 | 4.36 | 4.11 | 62.3 | Farm products, fruit and manufactures. |
| 4,931 | 5,049 | 4.25 | 4.15 | 42.9 | Farm products, fruit and manufactures. |
| 2,059 | 2,102 | 4.70 | 4.61 | 25.1 | Lumber, farm products, fisheries, etc. |
| 2,367 | 2,421 | 5.06 | 4.95 | 16.4 | Lumber, farm products and fisheries. |
| 2,186 | 2,266 | 5.50 | 5.30 | 7.7 | Lumber, grain, building stone. |
| 1,556 | 1,606 | 4.86 | 4.71 | 13.3 | Farm products. |
| 6,093 | 6,167 | 4.35 | 4.30 | 46.5 | Farm products and stock. |
| 576 | 581 | 5.14 | 5.10 | 5.3 | Lumber saw mills and farm products. |
| 2,520 | 2,778 | 6.08 | 5.52 | 13.2 | Lumber, iron ore, charcoal and farm products. |
| | | | | | Iron ore, lumber and farm products. |
| 7,715 | 7,920 | 4.16 | 4.05 | 56.0 | Farm products and manufactures. |
| 1,966 | 2,033 | 4.45 | 4.31 | 20.6 | Farm products, fruit, lumber and manufactures. |
| 9,026 | 9,367 | 4.37 | 4.21 | 61.4 | Farm products, fruit and manufactures. |
| 811 | 832 | 5.19 | 5.06 | 8.2 | Fruit and farm products. |
| 1,900 | 2,115 | 6.93 | 6.23 | 12.3 | Iron ore and lumbering. |
| 2,566 | 2,666 | 5.16 | 5.01 | 28.8 | Fruit, farm products, lumber, manufactures. |
| 6,462 | 6,564 | 4.44 | 4.37 | 50.3 | Fruit, farm products and mineral springs. |
| 7,617 | 7,833 | 4.03 | 3.91 | 51.0 | Farm products, dairying and stock. |
| 5,843 | 6,361 | 6.05 | 5.56 | 35.0 | Copper, limestone and slate. |
| 5,297 | 5,401 | 5.39 | 5.29 | 34.1 | Farm products, lumber, salt, lime, coal, building stone. |
| 8,602 | 8,784 | 4.38 | 4.29 | 68.1 | Farm products, manufactures and stock. |
| 7,568 | 7,770 | 4.34 | 4.22 | 57.3 | Building stone, silk mills, farm products and manufactures. |

**Table 14.**—CONTINUED.—*Movement and*

| Counties. | Movement of population, 1880 to 1890. | | | | Sex, 1890. | | Nativity, 1890. | |
|---|---|---|---|---|---|---|---|---|
| | 1890. | 1880. | Increase or decrease. | Per cent. | Males. | Females. | Native-born. | Foreign-born. |
| Iosco | 15,224 | 6,873 | 8,351 | 121.50 | 8,340 | 6,884 | 8,557 | 6,667 |
| Iron* | 4,432 | ..... | 4,432 | ..... | 2,783 | 1,649 | 2,126 | 2,306 |
| Isabella | 18,784 | 12,159 | 6,625 | 54.49 | 9,960 | 8,824 | 15,081 | 3,703 |
| Isle Royal | 135 | 55 | 80 | 145.45 | 126 | 9 | 36 | 99 |
| Jackson | 45,031 | 42,031 | 3,000 | 7.14 | 22,833 | 22,198 | 39,072 | 5,959 |
| Kalamazoo | 39,273 | 34,342 | 4,931 | 14.36 | 19,588 | 19,685 | 32,664 | 6,609 |
| Kalkaska | 5,160 | 2,937 | 2,223 | 75.69 | 2,915 | 2,245 | 4,143 | 1,017 |
| Kent | 109,922 | 73,253 | 36,669 | 50.06 | 56,267 | 53,655 | 79,983 | 29,939 |
| Keweenaw | 2,894 | 4,270 | a 1,376 | a 32.22 | 1,630 | 1,264 | 1,568 | 1,326 |
| Lake | 6,505 | 3,233 | 3,272 | 101.21 | 3,755 | 2,750 | 4,597 | 1,908 |
| Lapeer | 29,213 | 30,138 | a 925 | a 3.07 | 15,034 | 14,179 | 22,220 | 6,993 |
| Leelanau | 7,944 | 6,253 | 1,691 | 27.04 | 4,287 | 3,657 | 5,839 | 2,105 |
| Lenawee | 48,448 | 48,343 | 105 | 0.22 | 23,914 | 24,534 | 43,045 | 5,403 |
| Livingston | 20,858 | 22,251 | a 1,393 | a 6.26 | 10,748 | 10,110 | 18,346 | 2,512 |
| Luce* | 2,455 | ..... | 2,455 | ..... | 1,603 | 852 | 890 | 1,565 |
| Mackinac | 7,830 | 2,902 | 4,928 | 169.81 | 4,637 | 3,193 | 5,039 | 2,791 |
| Macomb | 31,813 | 31,627 | 186 | 0.59 | 16,201 | 15,612 | 24,088 | 7,725 |
| Manistee | 24,230 | 12,532 | 11,698 | 93.35 | 12,923 | 11,307 | 14,233 | 9,997 |
| Manitou | 860 | 1,334 | a 474 | a 35.53 | 479 | 381 | 600 | 260 |
| Marquette | 39,521 | 25,394 | 14,127 | 55.63 | 22,927 | 16,594 | 18,750 | 20,771 |
| Mason | 16,385 | 10,065 | 6,320 | 62.79 | 8,758 | 7,627 | 11,036 | 5,349 |
| Mecosta | 19,697 | 13,973 | 5,724 | 40.96 | 10,326 | 9,371 | 15,303 | 4,394 |
| Menominee | 33,639 | 11,987 | 21,652 | 180.63 | 20,385 | 13,254 | 16,131 | 17,508 |
| Midland | 10,657 | 6,893 | 3,764 | 54.61 | 5,675 | 4,982 | 8,005 | 2,652 |
| Missaukee | 5,048 | 1,553 | 3,495 | 225.05 | 2,969 | 2,079 | 3,182 | 1,866 |
| Monroe | 32,337 | 33,624 | a 1,287 | a 3.83 | 16,624 | 15,713 | 27,911 | 4,426 |
| Montcalm | 32,637 | 33,148 | a 511 | a 1.54 | 16,850 | 15,787 | 27,302 | 5,335 |
| Montmorency* | 1,487 | ..... | 1,487 | ..... | 885 | 602 | 907 | 580 |
| Muskegon | 40,013 | 26,586 | 13,427 | 50.50 | 20,927 | 19,086 | 26,278 | 13,735 |
| Newaygo | 20,476 | 14,688 | 5,788 | 39.41 | 11,350 | 9,126 | 16,389 | 4,087 |
| Oakland | 41,245 | 41,537 | a 292 | a 0.70 | 20,984 | 20,261 | 34,513 | 6,732 |
| Oceana | 15,698 | 11,699 | 3,999 | 34.18 | 8,362 | 7,336 | 13,123 | 2,575 |
| Ogemaw | 5,583 | 1,914 | 3,669 | 191.69 | 3,398 | 2,185 | 3,451 | 2,132 |
| Ontonagon | 3,756 | 2,565 | 1,191 | 46.43 | 2,342 | 1,414 | 2,423 | 1,333 |
| Osceola | 14,630 | 10,777 | 3,853 | 35.75 | 7,868 | 6,762 | 10,946 | 3,684 |
| Oscoda | 1,904 | 467 | 1,437 | 307.71 | 1,165 | 739 | 1,408 | 496 |

a Decrease.
* Not formed in 1880.

*character of population of Michigan.*

| Dwellings and families, 1890. | | | | Density of population,—persons to square mile. | Chief products and industries. |
|---|---|---|---|---|---|
| Total dwellings. | Total families. | Persons to a dwelling. | Persons to a family. | | |
| 2,882 | 3,052 | 5.28 | 4.99 | 27.5 | Lumber, farm products, salt and plaster. |
| 832 | 851 | 5.33 | 5.21 | 3.7 | Lumber and farm products. |
| 3,966 | 4,094 | 4.74 | 4.59 | 32.6 | Lumber and farm products. |
| 32 | 32 | 4.22 | 4.22 | 0.6 | Stone, native copper and fisheries. |
| 10,168 | 10,635 | 4.43 | 4.23 | 63.2 | Farm products, coal, sandstone and manufactures. |
| 8,735 | 9,158 | 4.50 | 4.29 | 70.3 | Farm products, celery, peppermint and manufactures. |
| 1,081 | 1,119 | 4.77 | 4.61 | 9.2 | Farm products, charcoal and lumber. |
| 23,263 | 24,469 | 4.94 | 4.49 | 128.9 | Farm products, fruits, furniture and manufactures. |
| 517 | 519 | 5.60 | 5.58 | 8.9 | Copper and lumber. |
| 1,276 | 1,280 | 5.10 | 5.08 | 11.4 | Timber, charcoal, farm products. |
| 6,482 | 6,604 | 4.51 | 4.42 | 44.1 | Farm products, lumber, charcoal and manufactures. |
| 1,559 | 1,590 | 5.10 | 5.00 | 26.0 | Charcoal, fruit and farm products. |
| 11,434 | 11,761 | 4.24 | 4.12 | 64.0 | Wool, farm products, fruits and cars. |
| 4,816 | 4,944 | 4.33 | 4.22 | 36.0 | Wool, stock, fruit and farm products. |
| 382 | 414 | 6.43 | 5.93 | 10.4 | Lumber, celery, charcoal and farm products. |
| 1,365 | 1,423 | 5.74 | 5.50 | 7.8 | Charcoal, ore, lumber and farm products. |
| 6,915 | 7,180 | 4.60 | 4.46 | 67.3 | Stock, ships, mineral springs and fisheries. |
| 4,485 | 4,852 | 5.40 | 4.99 | 44.4 | Lumber, salt, fruits and farm products. |
| 169 | 173 | 5.09 | 4.97 | 8.0 | Fisheries and farm products. |
| 5,742 | 6,688 | 6.88 | 5.91 | 23.6 | Iron, lumber, charcoal, pig iron, stone and fisheries. |
| 3,264 | 3,498 | 5.02 | 4.68 | 33.3 | Lumber, fruit and farm products. |
| 4,288 | 4,335 | 4.65 | 4.54 | 34.8 | Fruit, farm products and lumber. |
| 5,089 | 5,705 | 6.61 | 5.90 | 32.3 | Iron, farm products and lumber. |
| 2,303 | 2,343 | 4.63 | 4.55 | 20.3 | Salt, lumber, farm products, bromine. |
| 946 | 966 | 5.34 | 5.23 | 8.9 | Farm products and lumber. |
| 6,715 | 6,871 | 4.82 | 4.71 | 57.4 | Stock, farm products, manufactures and fisheries. |
| 7,478 | 7,585 | 4.36 | 4.30 | 46.0 | Farm products and lumber. |
| 269 | 273 | 5.53 | 5.45 | 2.7 | Farm products and lumber. |
| 8,237 | 8,581 | 4.86 | 4.66 | 79.7 | Farm products, lumber, fisheries, fruit and manufactures. |
| 4,188 | 4,261 | 4.89 | 4.81 | 24.2 | Farm products, fruit and manufactures. |
| 9,592 | 9,751 | 4.30 | 4.23 | 45.9 | Wool, stock, fruit and farm products. |
| 3,430 | 3,492 | 4.58 | 4.50 | 29.1 | Lumber, fruit, furniture and farm products. |
| 1,014 | 1,014 | 5.51 | 5.51 | 9.8 | Lumber, farm products and manufactures. |
| 840 | 857 | 4.47 | 4.38 | 2.8 | Copper, fisheries, farm products, lumber. |
| 3,104 | 3,126 | 4.71 | 4.68 | 25.5 | Timber and wood manufactures. |
| 400 | 411 | 4.76 | 4.63 | 3.3 | Lumber and farm products. |

Table 14.—CONCLUDED.—*Movement and*

| Counties. | Movement of population, 1880 to 1890. | | | | Sex, 1890. | | Nativity, 1890. | |
|---|---|---|---|---|---|---|---|---|
| | 1890. | 1880. | Increase or decrease. | Per cent. | Males. | Females. | Native-born. | Foreign-born. |
| Otsego | 4,272 | 1,974 | 2,298 | 116.41 | 2,410 | 1,862 | 2,921 | 1,351 |
| Ottawa | 35,358 | 33,126 | 2,232 | 6.74 | 18,341 | 17,017 | 24,917 | 10,441 |
| Presque Isle | 4,687 | 3,113 | 1,574 | 50.56 | 2,581 | 2,106 | 2,854 | 1,833 |
| Roscommon | 2,033 | 1,459 | 574 | 39.34 | 1,301 | 732 | 1,256 | 777 |
| Saginaw | 82,273 | 59,095 | 23,178 | 39.23 | 42,917 | 39,356 | 56,777 | 25,496 |
| Sanilac | 32,589 | 26,341 | 6,248 | 23.72 | 17,008 | 15,581 | 18,658 | 13,931 |
| Schoolcraft | 5,818 | 885 | 4,933 | 557.40 | 3,654 | 2,164 | 3,002 | 2 816 |
| Shiawassee | 30,952 | 27,059 | 3,893 | 14.39 | 16,024 | 14,928 | 26,554 | 4,398 |
| St. Clair | 52,105 | 46,197 | 5,908 | 12.79 | 26,605 | 25,500 | 33,699 | 18,406 |
| St. Joseph | 25,356 | 26,626 | a 1,270 | a 4.77 | 12,807 | 12,549 | 22,890 | 2,466 |
| Tuscola | 32,508 | 25,738 | 6,770 | 26.30 | 16,840 | 15,668 | 24,493 | 8,015 |
| Van Buren | 30,541 | 30,807 | a 266 | a 0.86 | 15,493 | 15,048 | 28,368 | 2,173 |
| Washtenaw | 42,210 | 41,848 | 362 | 0.87 | 20,756 | 21,454 | 34,471 | 7,739 |
| Wayne | 257,114 | 166,444 | 90,670 | 54.47 | 127,765 | 129,349 | 161,097 | 96,017 |
| Wexford | 11,278 | 6,815 | 4,463 | 65.49 | 6,010 | 5,268 | 8,644 | 2,634 |

a Decrease.

## NOTE ON THE VITAL STATISTICS OF AUSTRALIA AND NEW ZEALAND.

Since Tables 7, 8 and 9 were in type, some interesting data in regard to the vital rates of Australia were noted in the Proceedings and Papers of the Parliament of South Australia, a set of which was recently received at the State Library. As little has been published in this country on the subject, the rates are inserted in this place for comparison with the rates stated in Tables 7, 8 and 9. The vital statistics of Australia are of peculiar interest to Americans as representing the experience of a people very similar to our own in constitution, but under very dissimilar conditions as regards climate and general environment.

The aggregate population of the seven Australasian colonies was estimated at about 4,000,000 on December 31, 1891, of which number 100,000 were aborigines. Victoria and New South Wales had in round numbers 1,157,000 each; Queensland 410,000; South Australia, 321,000; Tasmania, 153,000; Western Australia, 53,000; and New Zealand, 634,000. The authority is the Annual Report of the Registrar-General of South Australia for 1891, which presents the vital rates for that colony only for a series of years. From the relations of the rates for the other colonies, as given for the year 1891, the rates for South Australia for the period 1882-91 may be presumed to be fairly representative of the variations, at least, of all the other colonies.

*Vital statistics of South Australia (exclusive of the Northern Territory); decennial return showing rates per 1,000 estimated mean population, 1882-91.*

| | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. |
|---|---|---|---|---|---|---|---|---|---|---|
| Persons married | 17.7 | 17.3 | 16.8 | 15.9 | 13.0 | 13.0 | 13.6 | 13.4 | 14.3 | 14.6 |
| Births | 38.0 | 38.0 | 39.0 | 39.0 | 36.8 | 35.5 | 34.4 | 33.5 | 33.3 | 33.9 |
| Deaths | 15.4 | 15.1 | 15.8 | 12.9 | 14.0 | 12.9 | 12.3 | 11.4 | 12.6 | 13.3 |

*character of population of Michigan.*

| Dwellings and families, 1890. | | | | Density of population,—persons to square mile. | Chief products and industries. |
|---|---|---|---|---|---|
| Total dwellings. | Total families. | Persons to a dwelling. | Persons to a family. | | |
| 868 | 879 | 4.92 | 4.86 | 8.2 | Logs and lumber. |
| 7,321 | 7,452 | 4.83 | 4.74 | 63.9 | Farm products, fruit, celery, stone, manufactures. |
| 817 | 827 | 5.74 | 5.67 | 7.0 | Lumber, fisheries and farm products. |
| 360 | 379 | 5.65 | 5.36 | 3.8 | Lumber and farm products. |
| 16,266 | 16,761 | 5.06 | 4.91 | 101.9 | Lumber, salt, coal, building stone and lake commerce. |
| 6,474 | 6,538 | 5.08 | 4.98 | 33.9 | Lumber, farm products, manufactures and fisheries. |
| 973 | 1,013 | 5.98 | 5.74 | 4.9 | Pine, cedar, pig iron, fisheries and farm products. |
| 7,084 | 7,289 | 4.37 | 4.25 | 57.6 | Farm products, coal and manufactures. |
| 10,691 | 10,908 | 4.87 | 4.78 | 75.0 | Farm products, salt, lumber, fisheries and mineral water. |
| 6,007 | 6,171 | 4.22 | 4.11 | 50.5 | Fruit, peppermint oil, sand, brick and farm products. |
| 7,275 | 7,361 | 4 47 | 4.42 | 40.1 | Lumber products and farm products. |
| 7,356 | 7,522 | 4.15 | 4.06 | 50.0 | Fruit, stock, peppermint and farm products. |
| 9,199 | 9,556 | 4.59 | 4.37 | 59.4 | Woolen and paper mills, fruit and farm products. |
| 47,397 | 52,927 | 5.42 | 4.86 | 427.4 | Fruit, farm products, fisheries, ship building, peppermint, furniture, etc. |
| 2,423 | 2,514 | 4.65 | 4.49 | 19.7 | Lumber, fruit and farm products. |

The rates per 1,000 of the seven Australasian colonies for the census year 1891, were as follows:

| Colony. | Persons married. | Births. | Deaths. |
|---|---|---|---|
| Victoria | 15.3 | 33.6 | 16.2 |
| New South Wales | 14.8 | 34.6 | 14.3 |
| New Zealand | 12.1 | 29.0 | 10.4 |
| Queensland | 14.4 | 36.4 | 12.8 |
| South Australia | 14.6 | 33.9 | 13.3 |
| Tasmania | 13.3 | 33.4 | 15.0 |
| Western Australia | 16.0 | 31.6 | 16.6 |

In examining these statistics, the rates per 1,000 of persons married, births and deaths all seem to show a decline through the period in question. The marriage-rates for all of the colonies are very much lower than those in this country (see statements for three States having accurate registration of marriages in Table 7), and are even lower than those of many European countries. The birth-rates are slightly higher than the estimated average birth-rate of the United States, but show the same decline through the ten years noticeable in the birth-rates of Europe and America.

The death-rates are also very low, as compared with reliable rates representative of the United States. This depends in part on the more favorable age-constitution of the population. Thus, comparing Michigan and South Australia, we have the following:

| | Michigan, 1890. | South Australia, 1891. |
|---|---|---|
| Per cent under 5 years | 11.3 | 14.1 |
| Per cent aged 5–14, inclusive | 21.4 | 25.3 |
| Per cent aged 15–64, inclusive | 62.2 | 57.3 |
| Per cent aged 65 and over | 4.4 | 3.3 |

# PART II.—BIRTHS IN MICHIGAN DURING THE YEAR 1892.

The number of births registered for the year 1892 is 46,221. A large diminution is apparent as compared with the numbers returned for the years immediately preceding (see Table 5, Part I), but it must be remembered that the years from 1887 to 1891 contained a large number of fictitious returns of births from Wayne county. It is impossible to state exactly to what extent the returns are affected from this cause, but it is believed that the returns for this year, 1892, are more reliable than those for any year since 1886. It should be understood, of course, that the returns of births and deaths are defective to a large degree in every year, but so long as they are not tampered with, this deficiency can be studied and allowed for to some extent, and the actual changes in the birth-rates and death-rates of the State be inferred with approximate accuracy from the numbers of births and deaths returned. When, however, fraud enters into the returns, and large and irregular additions are made to the births and deaths, the usual basis of estimation is so impaired that it is impossible to judge of what the real conditions are, or even to say definitely to what extent or in what directions the birth-rates and death-rates have fluctuated from year to year. It is perfectly possible for a few dishonest enumerators in a single city to so alter and add to the returns of births and deaths that the work of all the other enumerators in the State, as represented in the final State total, shall be quite vitiated. The only remedy, and this is only palliative, is to exclude the returns from any locality where they are known to be grossly incorrect, or to admit them with such reasonable deductions as may be necessary. On page 14 is a statement of the number of births and the birth-rates for each year from 1887 to 1891, inclusive, after correction of Wayne county returns by deduction of the probable excess of registration. These figures will be referred to in the following comparisons as far as practicable, instead of those given in Table 5, which are the actual figures returned, but it is, of course, impossible to eliminate the incorrect returns from the detailed statements by sex, nativity and color given in the following tables:

SUMMARY OF THE REGISTRATION OF BIRTHS FOR THE YEAR 1892.

The following statements include the more important features of the registration of births in Michigan for the year 1892:

| | |
|---|---|
| **Total number of births returned,** | **46,221** |
| **Birth-rate per 1,000 estimated population,** | **21.2** |
| **(Actual number of births that occurred, estimated at** | **78,954** |
| **Actual birth-rate per 1,000, estimated at** | **36.3)** |

| | |
|---|---|
| **Decrease of births returned for 1892 (46,221) from the number returned for 1891 (50,812),** | **4,591** |
| **(Increase of births returned for 1892 (46,221) over the number returned for 1891 after making deduction for fraudulent returns from Wayne county (45,561), at least** | **660)** |

Of the 46,221 children born in 1892 according to the returns, there were:

| | |
|---|---|
| **Still-births (males, 597; females, 374; unknown, 43),** | **1,014** |
| **Still-birth-rate per 1,000 population,** | **0.5** |
| **Still-births per 1,000 births,** | **21.9** |
| **Children born alive,** | **45,207** |
| **Children born alive per 1,000 population,** | **20.7** |
| **Males,** | **24,148** |
| **Females,** | **21,995** |
| **Sex unknown or unspecified (43 of these still-born),** | **78** |
| **Born of parents both of native birth,** | **18,368** |
| **Born of parents both of foreign birth,** | **18,344** |
| **White,** | **45,938** |
| **Colored (black, 91; mulatto, 41; Indian, 114),** | **246** |
| **Color unknown or unspecified,** | **37** |
| **Twin children (males, 553; females, 559; unknown, 2),** | **1,114** |
| **Illegitimate births (males, 191; females, 206; unknown, 8),** | **405** |
| **Illegitimate births per 1,000 births,** | **8.8** |

BIRTH-RATES IN MICHIGAN, 1892.

The birth-rate of the State for 1892 based upon an estimated population of 2,185,279 is 21.2 per 1,000 inhabitants. This is lower than any rate since the commencement of registration as shown in the comparison of the successive years in Table 5, Part I, with the exception of those recorded for two years, 21.1 for 1871 and 20.7 for 1881. The rate for the five-year period 1886–90 according to the returns was 23.8 per 1,000. When, however, allowance is made for fraudulent returns from Wayne county, the rate for the five-year period falls to 21.3, and the birth-rate for the year is only slightly below the average. The rate for 1888 would be 21.0 instead of 24.4 and that for 1890, 20.5 instead of 25.0, both lower than the birth-rate of the State in 1892. On the whole, so far as the tampered returns may serve as the basis of any judgment, it may be said that the year 1892 shows a slight diminution in the total birth-rate for the State.

In Table 12, Part I, the birth-rates for the counties of the State as calculated to estimated population, may be seen. As two years have elapsed since the census enumeration, and as different localities in the State may show very different rates of growth as compared with the rates recorded for the last census decade, the population given and the birth-rates based on them cannot be accepted as absolutely correct in every case. They are, however, undoubtedly more correct than the rates would be if calculated directly upon the results of the last census with no allowance for increase since 1890. In general it may be said of these rates that they exhibit somewhat greater uniformity than those of deaths. There seem to be fewer counties imperfectly represented and falling considerably below the average degree of efficiency of registration.

The counties showing the lowest birth-rates are those situated in the oldest settl[illegible] portion of the State or the southern part of the Lower Peninsula. The birth-rates [illegible] for

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### SUMMARY OF THE REGISTRATION OF BIRTHS FOR THE YEAR 1892.

The following statements include the more important features of the registration of births in Michigan for the year 1892:

| | |
|---|---|
| **Total number of births returned,** | **46,221** |
| **Birth-rate per 1,000 estimated population,** | **21.2** |
| **(Actual number of births that occurred, estimated at** | **73,954** |
| **Actual birth-rate per 1,000, estimated at** | **33.8)** |

| | |
|---|---|
| **Decrease of births returned for 1892 (46,221) from the number returned for 1891 (50,812),** | **4,591** |
| **(Increase of births returned for 1892 (46,221) over the number returned for 1891 after making deduction for fraudulent returns from Wayne county (45,561), at least** | **660)** |

Of the 46,221 children born in 1892 according to the returns, there were:

| | |
|---|---|
| **Still-births (males, 597; females, 374; unknown, 43),** | **1,014** |
| **Still-birth-rate per 1,000 population,** | **0.5** |
| **Still-births per 1,000 births,** | **21.9** |
| **Children born alive,** | **45,207** |
| **Children born alive per 1,000 population,** | **20.7** |
| **Males,** | **24,148** |
| **Females,** | **21,995** |
| **Sex unknown or unspecified (43 of these still-born),** | **78** |
| **Born of parents both of native birth,** | **18,368** |
| **Born of parents both of foreign birth,** | **18,344** |
| **White,** | **45,938** |
| **Colored (black, 91; mulatto, 41; Indian, 114),** | **246** |
| **Color unknown or unspecified,** | **37** |
| **Twin children (males, 553; females, 559; unknown, 2),** | **1,114** |
| **Illegitimate births (males, 191; females, 206; unknown, 8),** | **405** |
| **Illegitimate births per 1,000 births,** | **8.8** |

BIRTH-RATES IN MICHIGAN, 1892.

The birth-rate of the State for 1892 based upon an estimated population of 2,185,279 is 21.2 per 1,000 inhabitants. This is lower than any rate since the commencement of registration as shown in the comparison of the successive years in Table 5, Part I, with the exception of those recorded for two years, 21.1 for 1871 and 20.7 for 1881. The rate for the five-year period 1886–90 according to the returns was 23.8 per 1,000. When, however, allowance is made for fraudulent returns from Wayne county, the rate for the five-year period falls to 21.3, and the birth-rate for the year is only slightly below the average. The rate for 1888 would be 21.0 instead of 24.4 and that for 1890, 20.5 instead of 25.0, both lower than the birth-rate of the State in 1892. On the whole, so far as the tampered returns may serve as the basis of any judgment, it may be said that the year 1892 shows a slight diminution in the total birth-rate for the State.

In Table 12, Part I, the birth-rates for the counties of the State as calculated to estimated population, may be seen. As two years have elapsed since the census enumeration, and as different localities in the State may show very different rates of growth as compared with the rates recorded for the last census decade, the population given and the birth-rates based on them cannot be accepted as absolutely correct in every case. They are, however, undoubtedly more correct than the rates would be if calculated directly upon the results of the last census with no allowance for increase since 1890. In general it may be said of these rates that they exhibit somewhat greater uniformity than those of deaths. There seem to be fewer counties imperfectly represented and falling considerably below the average degree of efficiency of registration.

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SUMMARY OF THE REGISTRATION OF BIRTHS FOR THE YEAR 1892.

The following statements include the more important features of the registration of births in Michigan for the year 1892:

**Total number of births returned,** . . . . . 46,1
**Birth-rate per 1,000 estimated population,** . . . .
**(Actual number of births that occurred, estimated at** .
**Actual birth-rate per 1,000, estimated at** . .

| | |
|---|---|
| **Decrease of births returned for 1892 (46,221) from the number returned for 1891 (50,812),** | **4,591** |
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The counties showing the lowest birth-rates are those situated in the oldest settled portion of the State or the southern part of the Lower Peninsula. The birth-rate for

certain counties of this class are as follows: Branch, 11.7; Berrien, 13.4; Cass, 11.9; Eaton, 11.7; Lenawee, 12.0; Livingston, 12.1; Oakland, 12.4; Washtenaw, 13.8.

The counties showing an extremely high birth-rate are chiefly those situated in the Upper Peninsula, or, in some cases, those containing large cities. Some of the highest rates recorded are as follows: Dickinson, 32.5; Gogebic 42.9; Houghton, 44.5; Iron 43.3; Keweenaw, 44.7; Marquette, 37.5. In all of these instances the counties contain a large and very prolific foreign-born population, and the rates given are probably not far from the truth. It should be remembered, however, that owing to the high birth-rate in these counties and the large amount of immigration received by them as compared with other portions of the State, the changes in the population are liable to be more abrupt and more extensive than in the older counties, and in consequence the population is liable to be underestimated in inter-census years, with the result that the vital rates would appear to be somewhat higher than they actually are.

The counties containing large cities generally show a somewhat higher-birth-rate than the average. Besides the fact that the cities have usually a larger percentage of foreign-born inhabitants than the country, with a correspondingly higher birth-rate for this reason, the inhabitants of the cities are probably distributed more favorably in regard to age for the production of children than the country population. It has not been attempted in these registration reports hitherto to present any statements of vital rates for the cities of the State apart from the counties in which they are situated. In the latter part of this report (Part V) such statements may be seen for the years 1890, 1891 and 1892, but at the time of preparation of the present remarks the tables of vital rates by cities are not sufficiently advanced to admit of use in this place. The following are the rates recorded for the counties that contain the larger cities of the State: Bay (Bay City), 25.4; Kent (Grand Rapids), 21.8; Saginaw (Saginaw) 22.1; Wayne (Detroit), 31.9.

In Table 13, Part I, the births returned from each county in 1892 are compared with the corresponding returns for 1891. The State as a whole, including Wayne county, shows a large decrease for 1892, amounting to 4,591 births. There was a decrease of more than this number, namely 4,853 births, in Wayne county alone, due to the fact that the returns of births from Detroit did not contain as many fictitious entries in 1892 as in 1891. Excluding Wayne county, therefore, as we are obliged to do in order to reach the truth in regard to the actual changes that have occurred in the number of births returned for 1892 as compared with the returns of 1891, we have an increase of 262 births for the remainder of the State over the previous year.

As regards the changes in the individual counties, of the State, 46 show a smaller number of births in 1892 than in 1891; 37 show an increase, and one, Arenac county, shows no change The counties indicating the largest amounts of loss are Branch, with 114 fewer births than in 1891; Lenawee, with 125 less; and Monroe, with 128 less. Wayne, with 4,853 less, is, of course, outside the pale of statistical discussion. The counties showing the largest amounts of increase for the year over the numbers returned for 1891 are generally situated in the Upper Peninsula or in the northern part of the State. The list, with the respective numbers gained, are as follows: Calhoun, 137; Gogebic, 177; Houghton, 161; Iron, 209 (this number, however, is not properly included, since the county made no returns at all in 1891); Kent, 202; Manistee, 105; Marquette, 282; Menominee, 103.

The relative numbers of children born, by sex, were about the same as in previous years, 110 males for every 100 females. As shown in Table 17 following, the ratio of

males born is higher in the newly settled counties with a higher general birth-rate than in the older part of the State.

The parent-nativity of children born in the State is a very important subject for consideration. The statistics for 1892 show that almost identically the same numbers (18,368 and 18,344) were born of native-born and foreign-born parents. This does not include the children born to couples in which the father and mother are of different nativities. The number and distribution of such births may be seen in succeeding tables (Tables 18 and 19). Table 20 is very suggestive in this connection. It shows that the percentages of births to foreign-born couples and native-born couples are equal for the first time in the history of Michigan. The tendency to increase in the foreign births and to decrease in the native-born parents has been marked and persistent since 1876. Probably the distress in the Upper Peninsula consequent on the closure of the mines, and the extensive losses of population in consequence thereof, will cause a decrease in the number of births returned from that part of the State for the next year, 1893, and perhaps for several years following. This will cause a temporary decrease in the foreign birth-rate, the Upper Peninsula, with its large proportion of foreign-born citizens at parental ages, being an important contributor thereto.

Whether the changes noted above will continue in the same general direction after the temporary disturbing conditions are removed, or whether a general diminution of immigration into the United States in general and into this State in particular, and the coming to years of manhood and of womanhood of the children of foreign-born as well as of native-born parents, themselves classed as native population and contributing to the births of children "born of native parents," may not altogether reverse the tendency of previous years, are interesting and important questions. One thing should be strongly urged at this point, and that is that the distinction of "native-born" and "foreign-born" is not sufficiently definite for satisfactory study of the problems connected with the life of newly-arrived European races on this soil; and another point of great importance, but which the present form of returns in this State gives no light upon, is the separation of the persons at present classed as "native-born" into those born of native and foreign-born parents. In other words the study of the nativity of the population should be carried back at least one generation in order to secure the best results. This latter distinction is made in the last United States census and will probably be continued through all future ones. It should be included in any modification of the present registration law, and thus important comparisons of the births registered with the corresponding classes of population will become possible.

In Table 11, Part I, a comparison is made between the number of persons who became parents in 1892, distinguishing between parents born in this country and foreign-born parents, and the relative numbers of the native-born and foreign-born inhabitants of Michigan in 1890. In the population figures it will be seen that there are about three times as many native- as foreign-born persons; the number of individuals who became parents are nearly equal for each class. This comparison is somewhat misleading because many more children are included in the native-born than in the foreign-born inhabitants. The usual method of comparing the fertility of different races or groups of population is to state the number of births per 1,000 women of child-bearing age. The figures necessary for such a statement are not yet accessible from the compilation of the last census, but a somewhat similar statement can be given in which the rate is stated for the total number of both sexes between the ages of 15 and 45. There were in Michigan in 1890 685,424 persons of native birth between 15 and 45 years of age, and

314,323 persons of the same ages of foreign-birth. There were 18,368 children born to native couples, or 26.8 per 1,000 population, 15–44, and 18,344 children born to foreign-born couples, or 58.4 per 1,000 population, 15–44. These rates are, of course, only approximate, but answer their purpose sufficiently in showing the much greater fertility of the foreign-born inhabitants of Michigan. As there is a larger proportion of males than females in the foreign than in the native population, the discrepancy between the relative birth-rates would become even more marked if the comparison between the births and the women of child-bearing age could be made. It may be safely said that the fertility of those of foreign birth is nearly three times as great as that of the native-born women.

## THE DIMINISHING BIRTH-RATE IN THE UNITED STATES.

Under this title a very suggestive paper by Dr. J. S. Billings, Superintendent of the Mortality Statistics of the Eleventh Census, appeared in the *Forum* for June, 1893. The facts contained therein are so important, and the comparative statements for Michigan and other States are of so much interest, that a brief abstract of the most salient features of the paper is herewith presented. Also, by the courtesy of the publisher of the *Forum* and with Dr. Billings' permission, the diagram showing the progressive diminution of the birth-rates in Europe and in this country during recent years is presented in this connection:

The birth-rate per thousand of population in the United States, according to the census returns, was 30.95 in 1880, and 26.68 in 1890; that is, it has diminished a little over four per thousand.

Although the census returns are not entirely accurate, it may be assumed that they are deficient in about the same degree for 1880 and 1890; an actual decrease in the proportion of births to population may be inferred from these figures.

The birth-rate has diminished in all the States and Territories except in Arizona, Colorado, Montana and New Mexico, in which States the increase probably depends upon a rise in the proportion of women at child-bearing ages. The greatest decrease occurs in the Southern and the least in the Northeastern States. In the following paragraphs the first figures after each State indicate the rate in 1880; the second figures that of 1890:

Maine, 20.72 and 17.79 per 1,000 of population; New Hampshire, 18.90, 18.37; Vermont, 21.71, 18.51; Massachusetts, 23.18, 21.51; Connecticut, 22.20, 21.26; Rhode Island, 23.88, 22.38; New York, 24.93, 23.28; New Jersey, 27.47, 25.16; Pennsylvania, 28.99, 25.69. Average, 25.57, 23.43.

Ohio, 27.94, 24.08; Indiana, 30.00, 25.29; Illinois, 30.68, 27.63; **Michigan, 27.64, 24.80;** Minnesota, 33.53, 29.94; Iowa, 31.01, 26.15; Kansas, 34.83, 28.16; Nebraska, 36.59, 29.22; Wisconsin, 30.22, 27.01; Idaho, 28.46, 27.14; Nevada, 22.07, 16.35; Utah, 41.52, 31.20; Wyoming, 27.13, 21.78. Average, 30.34, 26.47.

Delaware, 28.56, 24.89; Maryland, 30.77, 25.87; District of Columbia, 30.71, 23.07; Virginia, 34.88, 27.12; North Carolina, 36.70, 29.91; South Carolina, 37.51, 31.07; Florida, 34.59, 28.30; Georgia, 36.81, 30.31; Alabama, 37.39, 30.39; Mississippi, 37.85, 30.10; Louisiana, 35.28, 29.57; Texas, 40.74, 31.27; Arkansas, 42.29, 33.78; West Virginia, 35.92, 30.41; Kentucky, 34.34, 29.45; Tennessee, 37.35, 30.60; Missouri, 32.54, 28.72. Average, 36.12, 29.72.

California, 23.24, 19.41; Oregon, 28.52, 22.49; Washington, 29.45, 23.54. Average, 24.49, 20.69.

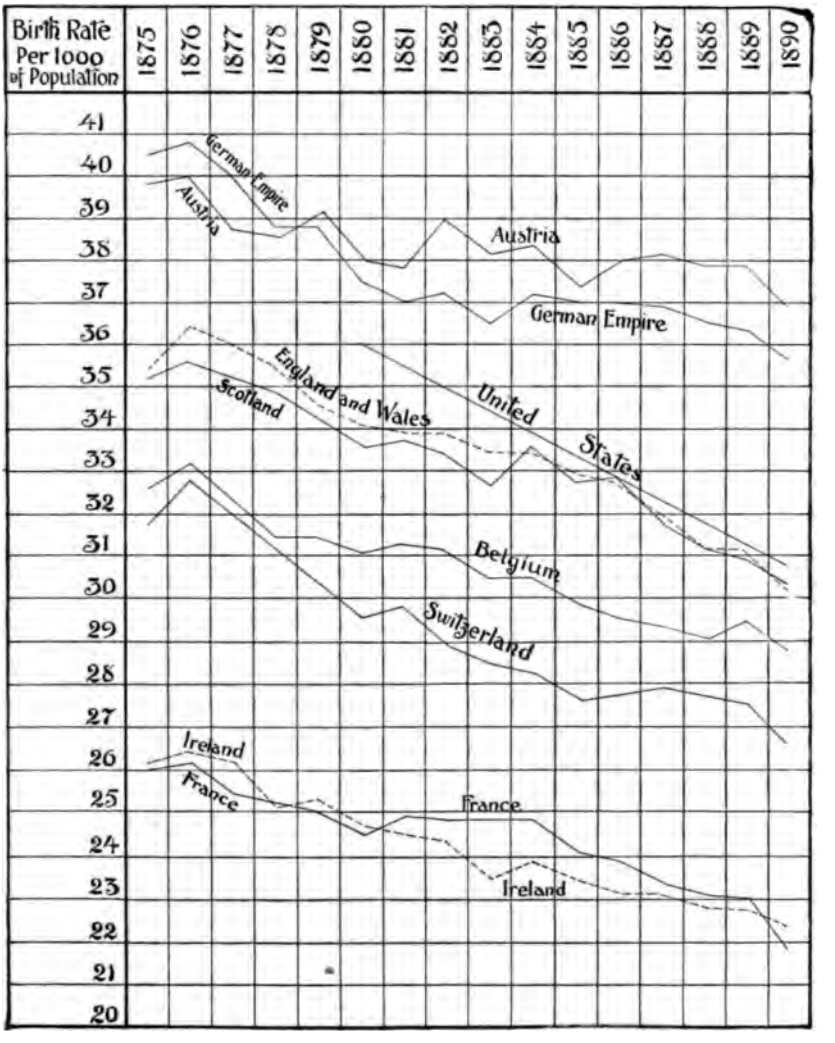
The apparent decrease in birth-rate has been greater in the States having a large colored population; in those States the decrease in the birth-rate has been greater for the colored than for the white inhabitants.

The United States and State censuses agree in indicating a progressive diminution in the number of children under one and under five in this country. For Michigan the figures are as follows: Under one year, 1880, 26.02 per 1,000 population; 1884, 26.74; 1890, 23.38. Under five years, 1880, 126.97; 1884, 121,90; 1890, 113.37. The proportion of children is also diminishing in other countries.

An increase in infantile death-rates exists, according to the census figures, for the whole United States from 1880 to 1890. The rates per 1,000 at same age of deaths

(DIAGRAM II.)

# DIMINUTION IN BIRTH-RATES



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under one year were in 1880, 103.81; in 1890, 104.06. The increase, though small, is significant, and is corroborated by the facts in those States in which there is accurate registration.

The birth-rates of the United States as deduced from census data are not directly comparable with those of other countries because the rates for the United States are considerably less than the true figures. The actual birth-rate in the United States in 1880 is estimated to have been about 36 per 1,000, and in 1890 it was probably about 31.4 per 1,000. These figures correspond to an increase of 15 per cent in the number of births returned, and agree closely with the birth-rate inferred from the natural increase obtained by deduction of the number of immigrants from the total increase of population compared with an estimated death-rate of 18 per 1,000.

These rates when compared with the changes in European birth-rates during the last fifteen years (see the diagram and also Table 8, p. 17, for numerical values for 1880–92) are very suggestive of a profound disturbance in social relations and in the conditions of life affecting the birth-rate. In both Europe and America the drift of the people from a higher towards a lower natality is very marked. Austria and Germany show a less decided decrease than the other countries during the decade 1880–90, but the total amount of decrease in the fifteen years, 1875–90, is about the same for all. The rate in the United States has fallen more sharply, according to the census, than in Europe. It must be remembered, however, that the inter-census fluctuations of vital rates are not known for this country, and that any cause that depressed the birth-rate for the single year 1889–90 (there was a marked fall in Europe during 1890) would make the apparent decrease in this country too great. While the birth-rate has probably been decreasing in this country, it would seem doubtful that the amount of decrease should be as large as represented.

In discussing the probable reasons for the diminution of the birth-rate in this country, Dr. Billings successively excludes the ideas of diminished power of either sex for the production of children, race deterioration caused by alcohol, syphilis or tobacco, and changes in mode of life of the people *per se*. This latter element, associated with the increasing migration from the country to the city and the increased demand for luxury in daily life, no doubt is influential, but "the most important factor in the change is the deliberate and voluntary avoidance or prevention of child-bearing on the part of a steadily increasing number of married people, who not only prefer to have but few children, but who know how to obtain their wish." Among the reasons for this are (1) the great diffusion of physiological information; (2) lessening of restraint from religious and social opinion; and (3) the greater cost of family life, which leads to the desire to have fewer children in order that they may each be better provided for. "In the struggle for what is deemed a more desirable mode of existence at the present day, marriage is held less desirable, and its bonds less sacred than they were forty years ago." It is becoming less an institution of lasting character whose primary object is the establishment of the family, with all that that term once implied, than a mere social function, easily abrogated when convenience or caprice make such a step seemingly desirable, and one whose lack of permanence and generally unstable character do not make children desirable additions.

As regards the outlook for the future in this country, according to this paper, the probability is that there will be a continued reduction of the birth-rate, and at the same time a somewhat increased mortality depending on the tendency of the people to desert the country for the city. This means a diminished natural increase of population.

The facts relating to the distribution of births in Michigan through the year, and also through the different counties of the State, together with comparisons with preceding years, are shown in the following tables. Analysis is made chiefly with reference to sex, color and nativity of parents.

*Synopsis of tables relating to births.*

| Table. | Births in Michigan, 1892. |
|---|---|
| | A.—*General discussion of births.* |
| 15. | Births by quarters, 1892, compared with 1890, 1891, and with the average for ten years, 1882-91. |
| 16. | Births by months, 1892, compared with 1890, 1891, and with the average for ten years, 1882-91. The months are arranged in order of the number of births registered in each. |
| 17. | Births, by sex and months, in each county of the State in 1892; also number of births of males to 100 births of females for each county. |
| 18. | By parent-nativity and sex, the number and per cent of children born in Michigan, 1892. |
| 19. | Comparison of parent-nativity of children born in Michigan in 1892 with 1890, 1891, and with the average of ten years, 1882-91. |
| 20. | Comparison of parent-nativity of children born in Michigan in 1891, 1892; with averages of the quinquennial periods 1871-75, 1876-80, 1881-85, 1886-90. |
| 21. | Births, by parent-nativity and sex, for each county of the State in 1892. |
| | B.—*Still-births, plural and illegitimate births.* |
| 22. | Number of pairs of twins, still-births and illegitimate children born in each county of the State in 1892. |
| 23. | Ratios of still-born, twin and illegitimate children to total births, 1892; compared with 1889-91, and with the average for ten years, 1882-91. |
| 24. | Comparison of the number of pairs of twins and cases of triplets returned in Michigan for ten years, 1883-92, and ratios of these events to total births in each year. |
| 25. | Months of birth, by sex, of still-born, twin and illegitimate children, 1892. |
| 26. | Parent-nativity, by sex, of still-born, twin and illegitimate children, 1892. |
| 27. | Ratios of the sexes (number of males to 100 females) of children born alive, still-births, twins and illegitimates in 1892, compared with 1891 and with the average of ten years, 1883-91. |
| 28. | Comparison of the parent-nativity of plural births in Michigan for ten years, 1883-92. |
| 29. | Comparison of the numbers and rates per 1,000 births of illegitimate children born in Michigan for ten years, 1883-92, and also of the parent-nativities of the mothers of illegitimate children for the same time. |
| 30. | Comparison, by nativity and color, of the number and proportion (to total mothers) of the mothers of still-births in 1892; the same for 1890, 1891, and the average for ten years, 1883-91. |
| 31. | Comparison, by nativity and color, of the number and proportion (to total mothers) of the mothers of twins in 1892; the same for 1890, 1891, and the average for ten years, 1883-91. |
| 32. | Comparison, by nativity and color, of the number and proportion (to total mothers) of the mothers of illegitimate children born in 1892; the same for 1890, 1891, and the average for ten years, 1883-91. |
| 33. | List of townships reporting that no births occurred in 1892. |
| 34. | List of townships that failed to make returns of births for 1892. |

Although the number of births recorded for 1892 is much below the number reported for any recent year, and, indeed, only slightly exceeds the average for the ten-year period, 1882-91, the distribution of these births among the quarters of the year appears to be much the same as usual. The third quarter predominates, influenced, doubtless, by the larger number of marriages always recorded in the fourth quarter of the preceding year, the interval between these quarters being the time between conception and birth.

In the earlier reports of this Department, an attempt was made to discover the interdependence of the marriage-rates and birth-rates by months, but with only partial success, owing partly to the imperfect condition of the returns of births and also to the fact that other important factors are concerned in the problem.

It is evident that the marriage-rate affects the birth-rate by months chiefly through

its part in determining the date of birth of the first children born after marriage, and this relation, under our present social conditions, is becoming less definite every year.

**Table 15.**—*Births, by quarters of the year, for the years 1889–92, and the average for ten years, 1882–91. (Still-births included.)*

| Quarter. | 1889. | | 1890. | | 1891. | | 1892. | | Average for 10 years, 1882–91. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. |
| Year | 49,272 | 100.0 | 52,806 | 100.0 | 50,812 | 100.0 | 46,221 | 100.0 | 44,908 | 100.0 |
| Quarter ending Mar. 31. | 10,445 | 21.2 | 12,204 | 23.3 | 11,506 | 22.6 | 10,286 | 22.3 | 9,958 | 22.2 |
| Quarter ending June 30. | 12,345 | 25.1 | 13,288 | 25.4 | 12,781 | 25.2 | 11,556 | 25.1 | 11,302 | 25.2 |
| Quarter ending Sept. 30. | 13,160 | 26.7 | 13,565 | 25.9 | 13,641 | 26.8 | 12,135 | 26.4 | 12,051 | 26.8 |
| Quarter ending Dec. 31. | 13,369 | 26.9 | 13,207 | 25.2 | 12,839 | 25.2 | 12,115 | 26.2 | 11,545 | 25.7 |
| Unknown month | 53 | .1 | 42 | .1 | 53 | .1 | 49 | .1 | 47 | .1 |
| Average* | 12,318 | 25.0 | 13,077 | 25.0 | 12,703 | 25.0 | 11,555 | 25.0 | 11,226 | 25.0 |

* The number of births in "unknown month" is included in the average.

In this connection, the following observations* based upon Dr. Becker's study of the statistics of the German Empire will be of interest. The influence of the marriage curve upon that for the total number of births is almost imperceptible. Throwing the date of birth back nine months, in order to get the time of conception, these results are arrived at for the period 1872–85: January, 100; February, 99; March, 99; April, 102.5; May, 105.3; June, 103.5; July, 100; August, 97; September, 95; October, 95.7; November, 98; December, 105. Thus the curve swells twice annually. The statistics of conceptions of births leading to illegitimate children, on the other hand, form a curve with but one annual swell, the maximum occurring in May and far above either maximum for total births. From this it is concluded that the seasons have much more direct influence upon births of illegitimate than of legitimate children. Very different is the curve of the still-born. It rises and sinks but once annually, but the height falls in the cold month of January, and the depth in moderate September.

Table 16 shows the order of the months for births as returned. It is well known that by the present system of registration in this State a large number of births entirely fail of record each year. The largest amount of deficiency in this respect is found among the first months of the year, these months being most remote from the date of registration. The returns for December and the latter months of the year are much more perfect, though even with these at least four months elapse between the occurrence of the births and the time of recording them. For this reason it will be observed that if the same number of births actually occurred in each month of the year, the order of the months, *as returned*, would be in the reverse order of their procession in the year. That the latter months predominate in the years compared, and also in the ten-year average, does not appear especially significant in view of the large margin of error involved in the data presented.

* Victor Rosewater in Quarterly Publications of the American Statistical Association, March, 1892, reviewing *Die Jahresschwankungen in der Häufigkeit verschiedener bevölkerungs und moralstatistischer Erscheinungen*, by Dr. W. Becker, *Allgemeines Statistisches Archiv, II, No. 1.*

**Table 16.**—*Births during the years 1890–92, according to the returns, and the average for ten years, 1882–91, showing number and percentage by months in order of greatest first.* (*Still-births included.*)

| Order. | 1890. | | | 1891. | | | 1892. | | | Average for 10 years, 1882-91. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Months. | Number. | Per cent of total. | Months. | Number. | Per cent of total. | Months. | Number. | Per cent of total. | Months. | Number. | Per cent of total. |
| | Year.... | 52,806 | 100.0 | Year.... | 50,812 | 100.0 | Year.. | 46,231 | 100.0 | Year.. | 44,903 | 100.0 |
| 1 | Dec. .... | 4,765 | 9.1 | Aug..... | 4,702 | 9.3 | Dec. .. | 4,344 | 9.4 | Aug... | 4,132 | 9.2 |
| 2 | Aug..... | 4,651 | 8.9 | Sept. ... | 4,646 | 9.1 | Aug... | 4,168 | 9.0 | Sept.. | 4,069 | 9.1 |
| 3 | May .... | 4,568 | 8.7 | May .... | 4,465 | 8.8 | Sept.. | 4,088 | 8.8 | Dec. .. | 4,005 | 8.9 |
| 4 | Sept. ... | 4,517 | 8.6 | Dec. .... | 4,391 | 8.6 | May .. | 3,977 | 8.6 | May .. | 3,885 | 8.7 |
| 5 | April ... | 4,407 | 8.4 | March .. | 4,345 | 8.6 | July .. | 3,929 | 8.5 | Oct. .. | 3,875 | 8.6 |
| 6 | July .... | 4,397 | 8.4 | Oct. .... | 4,340 | 8.5 | April.. | 3,928 | 8.5 | July .. | 3,850 | 8.6 |
| 7 | March .. | 4,356 | 8.3 | July .... | 4,298 | 8.4 | Oct. . | 3,918 | 8.5 | April . | 3,775 | 8.4 |
| 8 | June ... | 4,313 | 8.2 | April ... | 4,238 | 8.3 | Nov... | 3,853 | 8.3 | Mar... | 3,759 | 8.3 |
| 9 | Nov..... | 4,222 | 8.1 | Nov..... | 4,098 | 8.1 | Mar... | 3,745 | 8.1 | Nov... | 3,665 | 8.2 |
| 10 | Oct. .... | 4,219 | 8.1 | June.... | 4,078 | 8.0 | June.. | 3,681 | 8.0 | June.. | 3,641 | 8.1 |
| 11 | Jan. .... | 4,130 | 7.9 | Jan. .... | 3,629 | 7.1 | Feb. .. | 3,315 | 7.2 | Feb. .. | 3,103 | 6.9 |
| 12 | Feb. .... | 3,718 | 7.1 | Feb. .... | 3,584 | 7.0 | Jan. .. | 3,226 | 7.0 | Jan. .. | 3,097 | 6.9 |
| | Unk. ... | 42 | .... .... | Unk. ... | 53 | .1 | Unk. . | 49 | .1 | Unk. . | 47 | .1 |
| | Av.*.... | 4,359 | 8.3 | Av.*.... | 4,234 | 8.3 | Av.*.. | 3,853 | 8.3 | Av.*.. | 3,742 | 8.3 |

* Including births in unknown month.

Table 17 gives a detailed statement of the number of births, by sex and months, for each county of the State. In this table is also incorporated a statement of the ratio of male births to 100 female births in each county of the State, and a NOTE appended to the table presents the particulars in regard to the color of children born in Michigan in the year 1892. It gives a full statement, by counties, of the number and sex of all births of color other than white. Only 246 such were reported against a total of 45,938 white children born. The ratio of colored births to total births is 0.53 per cent; of black births (91 in number), 0.19 per cent; of mulatto births (41 in number), 0.09 per cent; and the Indian births (114 in number), 0.25 per cent.

The number of male children born to 100 females, is, for the State, 110. The ratio was 109 to 100 in 1891, and 111 to 100 in the preceding year. This proportion obtains with trifling variations from year to year. Comparison of different portions of the State shows very different ratios, varying from only 54 males to 100 females in Lake county, and 69 males to 100 females in Baraga county, to 288 per 100 in Montmorency, 341 per 100 in Alger, etc. As the returns were very small numerically in these counties, such extreme ratios are probably nothing more than accidental. Thus for the year 1891, the positions of Alger and Baraga counties are reversed, the former having only 67 male births per 100 females, and the latter showing 140 per 100. In general, statistics based upon very small numerical values are subject to great variations from accidental causes, and, if any stress whatever be placed upon them, may become very misleading.

**Table 17.**—*Exhibiting, by counties and by sex, the number of births returned for the year, and for each month of the year, ending Dec. 31, 1892; also the number of males to 100 females. (Still-births included.)*

| State and counties. | Births—males to 100 females. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| State | 110 | Total | 46,221 | 3226 | 3315 | 3745 | 3928 | 3977 | 3681 | 3929 | 4168 | 4088 | 3918 | 3853 | 4344 | 49 |
| | | Males | 24,148 | 1701 | 1729 | 1969 | 2088 | 2025 | 1939 | 2036 | 2213 | 2088 | 2038 | 2040 | 2254 | 28 |
| | | Females | 21,995 | 1522 | 1584 | 1771 | 1831 | 1947 | 1732 | 1888 | 1950 | 1990 | 1874 | 1803 | 2083 | 20 |
| | | Unknown | 78 | 3 | 2 | 5 | 9 | 5 | 10 | 5 | 5 | 10 | 6 | 10 | 7 | 1 |
| Alcona | 171 | Total | 111 | 6 | 6 | 14 | 5 | 7 | 7 | 10 | 9 | 9 | 13 | 12 | 13 | .... |
| | | Males | 70 | 5 | 5 | 7 | 4 | 5 | 5 | 4 | 4 | 7 | 6 | 8 | 10 | .... |
| | | Females | 41 | 1 | 1 | 7 | 1 | 2 | 2 | 6 | 5 | 2 | 7 | 4 | 3 | .... |
| Alger | 243 | Total | 24 | .... | .... | 4 | 2 | 2 | 2 | 3 | 1 | .... | 6 | 3 | 1 | .... |
| | | Males | 17 | .... | .... | 3 | 1 | .... | 2 | 2 | 1 | .... | 5 | 2 | 1 | .... |
| | | Females | 7 | .... | .... | 1 | 1 | 2 | .... | 1 | .... | .... | 1 | 1 | .... | .... |
| Allegan | 106 | Total | 702 | 48 | 59 | 55 | 68 | 72 | 56 | 49 | 69 | 48 | 68 | 49 | 61 | .... |
| | | Males | 361 | 23 | 27 | 28 | 35 | 37 | 26 | 28 | 36 | 28 | 41 | 19 | 33 | .... |
| | | Females | 340 | 25 | 32 | 27 | 33 | 35 | 30 | 21 | 33 | 20 | 27 | 29 | 28 | .... |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| Alpena | 121 | Total | 459 | 30 | 36 | 32 | 41 | 47 | 36 | 34 | 32 | 45 | 34 | 48 | 41 | 3 |
| | | Males | 251 | 15 | 22 | 19 | 26 | 24 | 15 | 19 | 17 | 24 | 18 | 26 | 23 | 3 |
| | | Females | 208 | 15 | 14 | 13 | 15 | 23 | 21 | 15 | 15 | 21 | 16 | 22 | 18 | .... |
| Antrim | 97 | Total | 226 | 9 | 7 | 18 | 22 | 24 | 24 | 23 | 17 | 26 | 25 | 14 | 16 | 1 |
| | | Males | 111 | 3 | 2 | 8 | 12 | 11 | 14 | 11 | 8 | 13 | 13 | 8 | 7 | 1 |
| | | Females | 115 | 6 | 5 | 10 | 10 | 13 | 10 | 12 | 9 | 13 | 12 | 6 | 9 | .... |
| Arenac | 98 | Total | 135 | 11 | 8 | 10 | 20 | 9 | 8 | 7 | 11 | 11 | 14 | 14 | 12 | .... |
| | | Males | 65 | 4 | 4 | 3 | 8 | 6 | 2 | 4 | 10 | 6 | 8 | 5 | 5 | .... |
| | | Females | 70 | 7 | 4 | 7 | 12 | 3 | 6 | 3 | 1 | 5 | 6 | 9 | 7 | .... |
| Baraga | 69 | Total | 91 | 4 | 7 | 6 | 9 | 13 | 11 | 12 | 6 | 8 | 4 | 8 | 3 | .... |
| | | Males | 37 | 2 | 4 | 3 | 3 | 3 | 6 | 6 | 5 | 4 | 1 | .... | .... | .... |
| | | Females | 54 | 2 | 3 | 3 | 6 | 10 | 5 | 6 | 1 | 4 | 3 | 8 | 3 | .... |
| Barry | 110 | Total | 343 | 18 | 30 | 26 | 27 | 32 | 17 | 32 | 33 | 40 | 32 | 22 | 34 | .... |
| | | Males | 180 | 9 | 19 | 11 | 15 | 17 | 13 | 17 | 16 | 24 | 14 | 15 | 10 | .... |
| | | Females | 163 | 9 | 11 | 15 | 12 | 15 | 4 | 15 | 17 | 16 | 18 | 7 | 24 | .... |
| Bay | 115 | Total | 1,539 | 109 | 115 | 134 | 127 | 147 | 112 | 124 | 145 | 115 | 139 | 114 | 158 | .... |
| | | Males | 821 | 65 | 61 | 78 | 69 | 70 | 62 | 60 | 72 | 67 | 71 | 60 | 86 | .... |
| | | Females | 717 | 44 | 53 | 56 | 58 | 77 | 50 | 64 | 73 | 48 | 68 | 54 | 72 | .... |
| | | Unknown | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

**Table 17.**—CONTINUED.—*Births by counties, months and sex.*

| County. | Births—males to 100 females. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| [illegible] | 128 | Total | 98 | 1 | 8 | 11 | 6 | 4 | 10 | 8 | 15 | 17 | 6 | 7 | 5 | ---- |
| | | Males | 56 | 1 | 8 | 8 | 3 | 4 | 3 | 6 | 7 | 10 | 4 | 5 | 2 | ---- |
| | | Females | 42 | ---- | 5 | 3 | 3 | ---- | 7 | 2 | 8 | 7 | 2 | 2 | 3 | ---- |
| [illegible] | 108 | Total | 566 | 46 | 41 | 36 | 42 | 45 | 49 | 46 | 61 | 48 | 45 | 49 | 62 | 1 |
| | | Males | 293 | 21 | 26 | 17 | 22 | 29 | 24 | 23 | 26 | 22 | 24 | 27 | 32 | 1 |
| | | Females | 271 | 25 | 15 | 19 | 20 | 16 | 25 | 24 | 35 | 21 | 19 | 23 | 30 | ---- |
| | | Unknown | 2 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 2 | ---- | ---- | ---- |
| [illegible] | 120 | Total | 312 | 19 | 21 | 13 | 29 | 27 | 24 | 30 | 37 | 23 | 24 | 27 | 31 | 2 |
| | | Males | 170 | 11 | 15 | 4 | 21 | 18 | 10 | 12 | 19 | 15 | 13 | 16 | 15 | 1 |
| | | Females | 142 | 8 | 6 | 9 | 8 | 9 | 14 | 18 | 18 | 13 | 11 | 11 | 16 | 1 |
| [illegible] | 101 | Total | 742 | 51 | 51 | 46 | 69 | 62 | 59 | 69 | 55 | 71 | 72 | 66 | 71 | ---- |
| | | Males | 370 | 18 | 22 | 25 | 37 | 28 | 25 | 38 | 34 | 30 | 42 | 36 | 35 | ---- |
| | | Females | 368 | 33 | 29 | 21 | 32 | 34 | 33 | 31 | 21 | 40 | 30 | 28 | 36 | ---- |
| | | Unknown | 4 | ---- | ---- | ---- | ---- | ---- | 1 | ---- | ---- | 1 | ---- | 2 | ---- | ---- |
| [illegible] | 133 | Total | 247 | 15 | 19 | 19 | 21 | 12 | 26 | 22 | 27 | 23 | 16 | 25 | 21 | 1 |
| | | Males | 141 | 11 | 7 | 13 | 12 | 8 | 14 | 9 | 19 | 12 | 9 | 16 | 11 | ---- |
| | | Females | 106 | 4 | 12 | 6 | 9 | 4 | 12 | 13 | 8 | 11 | 7 | 9 | 10 | 1 |
| [illegible] | 108 | Total | 166 | 7 | 13 | 8 | 13 | 16 | 20 | 19 | 14 | 13 | 11 | 11 | 16 | ---- |
| | | Males | 86 | 4 | 8 | 6 | 9 | 9 | 11 | 11 | 8 | 4 | 4 | 5 | 7 | ---- |
| | | Females | 80 | 3 | 5 | 2 | 9 | 7 | 9 | 8 | 6 | 9 | 7 | 6 | 9 | ---- |
| [illegible] | 103 | Total | 301 | 14 | 18 | 18 | 31 | 24 | 28 | 20 | 28 | 31 | 23 | 27 | 29 | ---- |
| | | Males | 152 | 7 | 11 | 11 | 16 | 17 | 19 | 11 | 13 | 18 | 9 | 12 | 8 | ---- |
| | | Females | 148 | 7 | 7 | 7 | 15 | 17 | 9 | 9 | 15 | 13 | 14 | 15 | 20 | ---- |
| | | Unknown | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1 | ---- |
| [illegible] | 121 | Total | 267 | 14 | 18 | 19 | 23 | 25 | 14 | 17 | 23 | 24 | 23 | 22 | 29 | 6 |
| | | Males | 146 | 7 | 11 | 10 | 13 | 16 | 8 | 10 | 10 | 22 | 11 | 13 | 12 | 3 |
| | | Females | 121 | 7 | 7 | 9 | 10 | 9 | 6 | 7 | 13 | 12 | 12 | 9 | 17 | 3 |
| [illegible] | 104 | Total | 155 | 14 | 15 | 9 | 5 | 17 | 14 | 12 | 15 | 14 | 11 | 9 | 17 | 3 |
| | | Males | 79 | 5 | 7 | 8 | 3 | 7 | 6 | 7 | 10 | 8 | 3 | 4 | 9 | 2 |
| | | Females | 76 | 9 | 8 | 1 | 2 | 10 | 8 | 5 | 5 | 6 | 8 | 5 | 8 | 1 |
| [illegible] | 94 | Total | 482 | 27 | 35 | 49 | 48 | 30 | 41 | 53 | 53 | 37 | 34 | 41 | 38 | 1 |
| | | Males | 233 | 14 | 14 | 27 | 15 | 16 | 20 | 24 | 29 | 17 | 16 | 23 | 17 | 1 |
| | | Females | 249 | 13 | 21 | 22 | 33 | 14 | 21 | 29 | 24 | 20 | 18 | 18 | 16 | ---- |
| [illegible] | 117 | Total | 52 | 1 | 3 | 3 | 5 | 3 | 6 | 6 | 7 | 6 | 8 | ---- | 4 | ---- |
| | | Males | 28 | 1 | 2 | 3 | 2 | 1 | 3 | 1 | 5 | 2 | 5 | ---- | 3 | ---- |
| | | Females | 24 | ---- | 1 | ---- | 3 | 2 | 3 | 5 | 2 | 4 | 3 | ---- | 1 | ---- |

**Table 17.**—CONTINUED.—*Births by counties, months and sex.*

| Counties. | Births—males to 100 females. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| Delta | 97 | Total | 484 | 32 | 43 | 46 | 55 | 49 | 38 | 27 | 45 | 40 | 40 | 34 | 35 | .... |
| | | Males | 238 | 22 | 18 | 24 | 31 | 22 | 17 | 16 | 22 | 16 | 19 | 16 | 15 | .... |
| | | Females | 245 | 10 | 25 | 22 | 24 | 27 | 21 | 11 | 23 | 24 | 21 | 17 | 20 | .... |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| Dickinson | 112 | Total | 548 | 34 | 39 | 44 | 39 | 35 | 46 | 53 | 56 | 34 | 49 | 55 | 64 | .... |
| | | Males | 290 | 22 | 18 | 21 | 21 | 22 | 25 | 26 | 33 | 17 | 27 | 32 | 26 | .... |
| | | Females | 258 | 12 | 21 | 23 | 18 | 13 | 21 | 27 | 23 | 17 | 22 | 23 | 38 | .... |
| Eaton | 101 | Total | 378 | 32 | 23 | 26 | 25 | 35 | 35 | 31 | 30 | 33 | 35 | 33 | 40 | .... |
| | | Males | 189 | 13 | 7 | 17 | 14 | 20 | 16 | 15 | 17 | 17 | 20 | 14 | 19 | .... |
| | | Females | 188 | 19 | 16 | 9 | 11 | 15 | 19 | 16 | 13 | 16 | 15 | 18 | 21 | .... |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| Emmet | 101 | Total | 136 | 9 | 8 | 8 | 16 | 14 | 9 | 13 | 11 | 19 | 12 | 9 | 8 | .... |
| | | Males | 68 | 5 | 6 | 5 | 8 | 10 | 4 | 4 | 7 | 11 | 2 | 5 | 1 | .... |
| | | Females | 67 | 4 | 2 | 3 | 8 | 4 | 5 | 9 | 4 | 8 | 10 | 4 | 6 | .... |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... |
| Genesee | 108 | Total | 603 | 56 | 46 | 38 | 49 | 44 | 46 | 58 | 55 | 52 | 58 | 52 | 49 | .... |
| | | Males | 313 | 33 | 24 | 16 | 21 | 20 | 26 | 31 | 28 | 24 | 36 | 29 | 25 | .... |
| | | Females | 289 | 23 | 22 | 22 | 28 | 24 | 20 | 27 | 26 | 28 | 22 | 23 | 24 | .... |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... |
| Gladwin | 86 | Total | 67 | 3 | 4 | 2 | 5 | 6 | 7 | 7 | 2 | 9 | 10 | 7 | 5 | .... |
| | | Males | 31 | 2 | 3 | 2 | 1 | 5 | 4 | 3 | .... | 2 | 4 | 3 | 2 | .... |
| | | Females | 36 | 1 | 1 | .... | 4 | 1 | 3 | 4 | 2 | 7 | 6 | 4 | 3 | .... |
| Gogebic | 119 | Total | 678 | 52 | 41 | 71 | 54 | 54 | 51 | 49 | 58 | 61 | 54 | 64 | 65 | 4 |
| | | Males | 367 | 31 | 19 | 43 | 31 | 28 | 28 | 31 | 32 | 32 | 27 | 32 | 31 | 2 |
| | | Females | 309 | 21 | 22 | 27 | 23 | 26 | 23 | 18 | 26 | 29 | 27 | 31 | 34 | 2 |
| | | Unknown | 2 | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| Grand Traverse | 99 | Total | 254 | 8 | 24 | 16 | 31 | 27 | 22 | 26 | 29 | 25 | 20 | 15 | 11 | .... |
| | | Males | 126 | 4 | 11 | 10 | 13 | 10 | 9 | 14 | 15 | 12 | 13 | 7 | 8 | .... |
| | | Females | 127 | 4 | 13 | 6 | 18 | 17 | 13 | 12 | 14 | 13 | 7 | 7 | 3 | .... |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| Gratiot | 109 | Total | 473 | 22 | 28 | 32 | 34 | 43 | 40 | 53 | 47 | 58 | 30 | 44 | 42 | .... |
| | | Males | 246 | 8 | 15 | 14 | 17 | 27 | 25 | 27 | 19 | 32 | 16 | 26 | 20 | .... |
| | | Females | 225 | 14 | 13 | 18 | 16 | 16 | 15 | 26 | 28 | 25 | 14 | 18 | 22 | .... |
| | | Unknown | 2 | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... |

Table 17.—CONTINUED.—*Births by counties, months and sex.*

| Counties. | Births—males to 100 females. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| Hillsdale | 122 | Total | 398 | 14 | 26 | 28 | 29 | 30 | 30 | 41 | 40 | 38 | 39 | 30 | 46 | 2 |
| | | Males | 216 | 5 | 18 | 18 | 18 | 15 | 12 | 25 | 21 | 23 | 18 | 15 | 27 | 1 |
| | | Females | 177 | 9 | 8 | 10 | 11 | 15 | 18 | 16 | 19 | 15 | 21 | 15 | 19 | 1 |
| Houghton | 114 | Total | 1,691 | 116 | 112 | 164 | 143 | 163 | 142 | 164 | 144 | 117 | 143 | 123 | 158 | 2 |
| | | Males | 901 | 64 | 53 | 90 | 83 | 89 | 72 | 86 | 85 | 62 | 73 | 60 | 83 | 1 |
| | | Females | 790 | 52 | 59 | 74 | 60 | 74 | 70 | 78 | 59 | 55 | 70 | 63 | 75 | 1 |
| Huron | 106 | Total | 755 | 51 | 46 | 62 | 76 | 57 | 58 | 66 | 73 | 84 | 50 | 59 | 73 | ---- |
| | | Males | 388 | 27 | 24 | 40 | 36 | 25 | 30 | 34 | 39 | 46 | 23 | 27 | 32 | ---- |
| | | Females | 366 | 24 | 22 | 22 | 40 | 32 | 28 | 32 | 34 | 38 | 22 | 32 | 40 | ---- |
| | | Unknown | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1 | ---- |
| Ingham | 97 | Total | 699 | 55 | 50 | 46 | 51 | 62 | 58 | 49 | 57 | 66 | 66 | 63 | 74 | 2 |
| | | Males | 341 | 28 | 23 | 21 | 19 | 26 | 27 | 21 | 31 | 29 | 36 | 31 | 48 | 1 |
| | | Females | 353 | 27 | 27 | 25 | 32 | 35 | 31 | 27 | 26 | 37 | 28 | 31 | 26 | 1 |
| | | Unknown | 5 | ---- | ---- | ---- | ---- | 1 | ---- | 1 | ---- | ---- | 2 | 1 | ---- | ---- |
| Ionia | 115 | Total | 488 | 30 | 35 | 41 | 36 | 46 | 40 | 46 | 38 | 43 | 44 | 45 | 44 | ---- |
| | | Males | 260 | 17 | 16 | 21 | 20 | 28 | 21 | 26 | 22 | 22 | 24 | 24 | 19 | ---- |
| | | Females | 227 | 13 | 19 | 20 | 16 | 18 | 18 | 20 | 16 | 21 | 20 | 21 | 25 | ---- |
| | | Unknown | 1 | ---- | ---- | ---- | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Iosco | 94 | Total | 283 | 32 | 25 | 26 | 28 | 27 | 16 | 26 | 27 | 16 | 21 | 14 | 24 | 1 |
| | | Males | 136 | 23 | 11 | 14 | 10 | 14 | 4 | 16 | 11 | 7 | 8 | 8 | 9 | 1 |
| | | Females | 144 | 9 | 14 | 12 | 16 | 13 | 12 | 10 | 16 | 9 | 13 | 5 | 15 | ---- |
| | | Unknown | 3 | ---- | ---- | ---- | 2 | ---- | ---- | ---- | ---- | ---- | ---- | 1 | ---- | ---- |
| Iron | 117 | Total | 209 | 18 | 21 | 22 | 14 | 19 | 16 | 18 | 7 | 17 | 15 | 14 | 27 | 1 |
| | | Males | 112 | 9 | 12 | 13 | 7 | 12 | 9 | 10 | 4 | 7 | 5 | 8 | 16 | 1 |
| | | Females | 96 | 9 | 9 | 10 | 7 | 7 | 6 | 8 | 3 | 10 | 10 | 6 | 11 | ---- |
| | | Unknown | 1 | ---- | ---- | ---- | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Isabella | 118 | Total | 442 | 20 | 20 | 39 | 65 | 47 | 40 | 34 | 35 | 33 | 35 | 29 | 45 | ---- |
| | | Males | 239 | 11 | 9 | 20 | 42 | 23 | 20 | 16 | 21 | 16 | 21 | 16 | 24 | ---- |
| | | Females | 203 | 9 | 11 | 19 | 23 | 24 | 20 | 18 | 14 | 17 | 14 | 13 | 21 | ---- |
| Jackson | 93 | Total | 662 | 44 | 39 | 41 | 62 | 62 | 50 | 52 | 69 | 61 | 67 | 63 | 52 | ---- |
| | | Males | 317 | 31 | 22 | 14 | 29 | 26 | 24 | 24 | 33 | 26 | 28 | 33 | 28 | ---- |
| | | Females | 340 | 13 | 17 | 27 | 33 | 35 | 25 | 27 | 35 | 35 | 39 | 30 | 24 | ---- |
| | | Unknown | 5 | ---- | ---- | ---- | ---- | 1 | 1 | 1 | 1 | ---- | ---- | 1 | ---- | ---- |
| Kalamazoo | 109 | Total | 685 | 44 | 51 | 52 | 53 | 50 | 66 | 51 | 62 | 74 | 55 | 65 | 62 | ---- |
| | | Males | 357 | 24 | 21 | 25 | 26 | 23 | 38 | 20 | 41 | 40 | 30 | 39 | 30 | ---- |
| | | Females | 328 | 20 | 30 | 27 | 27 | 27 | 28 | 31 | 21 | 34 | 25 | 26 | 32 | ---- |

**Table 17.**—CONTINUED.—*Births by counties, months and sex.*

| Counties. | Births—males to 100 females. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| Kalkaska | 203 | Total | 106 | 8 | 11 | 7 | 5 | 5 | 8 | 11 | 15 | 10 | 10 | 8 | 10 | 8 |
| | | Males | 71 | 1 | 5 | 5 | 5 | 3 | 7 | 10 | 6 | 8 | 5 | 5 | 8 | 1 |
| | | Females | 35 | 2 | 6 | 2 | .... | 2 | 1 | 1 | 9 | 2 | 5 | 3 | 2 | .... |
| Kent | 108 | Total | 2,551 | 182 | 191 | 207 | 229 | 193 | 210 | 232 | 224 | 232 | 206 | 197 | 246 | 2 |
| | | Males | 1,320 | 87 | 108 | 108 | 127 | 111 | 110 | 118 | 111 | 118 | 109 | 94 | 129 | .... |
| | | Females | 1,222 | 94 | 83 | 108 | 101 | 81 | 98 | 112 | 113 | 118 | 97 | 103 | 117 | 2 |
| | | Unknown | 9 | 1 | .... | 1 | 1 | 1 | 2 | 2 | .... | 1 | .... | .... | .... | .... |
| Keweenaw | 105 | Total | 117 | 10 | 11 | 11 | 15 | 11 | 9 | 15 | 7 | 5 | 13 | 4 | 6 | .... |
| | | Males | 60 | 4 | 5 | 6 | 7 | 7 | 6 | 8 | 3 | 2 | 6 | 4 | 2 | .... |
| | | Females | 57 | 6 | 6 | 5 | 8 | 4 | 3 | 7 | 4 | 3 | 7 | .... | 4 | .... |
| Lake | 54 | Total | 94 | 5 | 6 | 9 | 6 | 11 | 6 | 11 | 10 | 11 | 8 | 7 | 4 | .... |
| | | Males | 33 | 2 | 1 | 7 | 2 | 5 | 3 | 2 | 4 | 3 | 2 | 1 | 1 | .... |
| | | Females | 61 | 3 | 5 | 2 | 4 | 6 | 3 | 9 | 6 | 8 | 6 | 6 | 3 | .... |
| Lapeer | 111 | Total | 377 | 24 | 22 | 33 | 38 | 30 | 34 | 41 | 31 | 38 | 36 | 23 | 32 | .... |
| | | Males | 198 | 12 | 12 | 14 | 15 | 17 | 17 | 23 | 21 | 22 | 23 | 9 | 13 | .... |
| | | Females | 179 | 12 | 10 | 19 | 18 | 13 | 17 | 18 | 10 | 16 | 13 | 14 | 19 | .... |
| Leelanau | 111 | Total | 194 | 16 | 14 | 17 | 14 | 13 | 18 | 27 | 14 | 10 | 23 | 19 | 9 | .... |
| | | Males | 102 | 10 | 10 | 11 | 5 | 7 | 8 | 10 | 9 | 4 | 10 | 13 | 5 | .... |
| | | Females | 92 | 6 | 4 | 6 | 9 | 6 | 10 | 17 | 5 | 6 | 13 | 6 | 4 | .... |
| Lenawee | 105 | Total | 583 | 33 | 49 | 52 | 40 | 42 | 47 | 51 | 48 | 43 | 57 | 67 | 53 | 1 |
| | | Males | 298 | 19 | 20 | 21 | 21 | 21 | 22 | 29 | 26 | 23 | 29 | 37 | 30 | .... |
| | | Females | 285 | 14 | 29 | 31 | 19 | 21 | 25 | 22 | 22 | 20 | 28 | 30 | 23 | 1 |
| Livingston | 71 | Total | 250 | 13 | 19 | 13 | 14 | 23 | 14 | 23 | 23 | 22 | 24 | 29 | 23 | .... |
| | | Males | 110 | 8 | 9 | 5 | 6 | 17 | 9 | 5 | 7 | 9 | 13 | 13 | 9 | .... |
| | | Females | 140 | 5 | 10 | 8 | 8 | 11 | 5 | 18 | 21 | 13 | 11 | 16 | 14 | .... |
| Luce | 100 | Total | 40 | .... | 1 | 1 | .... | 2 | 9 | 4 | 7 | 5 | 2 | 5 | 4 | .... |
| | | Males | 20 | .... | 1 | 1 | .... | 1 | 5 | .... | 3 | 4 | 1 | 2 | 2 | .... |
| | | Females | 20 | .... | .... | .... | .... | 1 | 4 | 4 | 4 | 1 | 1 | 3 | 2 | .... |
| Mackinac | 145 | Total | 125 | 7 | 7 | 5 | 19 | 8 | 8 | 11 | 12 | 15 | 8 | 13 | 12 | .... |
| | | Males | 74 | 5 | 6 | 4 | 10 | 4 | 3 | 5 | 8 | 5 | 5 | 9 | 10 | .... |
| | | Females | 51 | 2 | 1 | 1 | 9 | 4 | 5 | 6 | 4 | 10 | 3 | 4 | 2 | .... |
| Macomb | 128 | Total | 592 | 40 | 34 | 49 | 43 | 49 | 50 | 50 | 55 | 59 | 62 | 48 | 53 | .... |
| | | Males | 326 | 21 | 18 | 25 | 27 | 28 | 31 | 25 | 31 | 35 | 32 | 25 | 28 | .... |
| | | Females | 266 | 19 | 16 | 24 | 16 | 21 | 19 | 25 | 24 | 24 | 30 | 23 | 25 | .... |

**Table 17.—CONTINUED.—*Births by counties, months and sex.***

| Counties. | Births—males to 100 females. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| Manistee | 114 | Total | 732 | 50 | 39 | 67 | 65 | 60 | 53 | 73 | 68 | 54 | 76 | 52 | 75 | .... |
| | | Males | 389 | 31 | 21 | 35 | 28 | 32 | 30 | 39 | 36 | 30 | 39 | 26 | 42 | .... |
| | | Females | 342 | 19 | 18 | 32 | 37 | 27 | 23 | 34 | 32 | 24 | 37 | 26 | 33 | .... |
| | | Unknown | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... |
| Manitou | 250 | Total | 7 | .... | 1 | 1 | .... | 1 | .... | 1 | .... | 1 | 1 | 1 | .... | .... |
| | | Males | 5 | .... | 1 | 1 | .... | 1 | .... | 1 | .... | 1 | .... | .... | .... | .... |
| | | Females | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... |
| Marquette | 115 | Total | 1,526 | 124 | 123 | 134 | 151 | 149 | 111 | 118 | 126 | 114 | 97 | 130 | 149 | .... |
| | | Males | 815 | 66 | 66 | 63 | 84 | 71 | 60 | 72 | 70 | 60 | 46 | 69 | 88 | .... |
| | | Females | 711 | 58 | 57 | 71 | 67 | 78 | 51 | 46 | 56 | 54 | 51 | 61 | 61 | .... |
| Mason | 135 | Total | 454 | 28 | 37 | 39 | 38 | 42 | 33 | 37 | 46 | 42 | 35 | 36 | 41 | .... |
| | | Males | 261 | 18 | 24 | 23 | 20 | 26 | 19 | 19 | 27 | 29 | 13 | 19 | 24 | .... |
| | | Females | 193 | 10 | 13 | 16 | 18 | 16 | 14 | 18 | 19 | 13 | 22 | 17 | 17 | .... |
| Mecosta | 110 | Total | 357 | 24 | 26 | 31 | 23 | 33 | 34 | 33 | 32 | 31 | 25 | 29 | 34 | 2 |
| | | Males | 187 | 18 | 13 | 18 | 14 | 11 | 17 | 22 | 15 | 18 | 10 | 15 | 15 | 1 |
| | | Females | 170 | 6 | 13 | 13 | 9 | 22 | 17 | 11 | 17 | 13 | 15 | 14 | 19 | 1 |
| Menominee | 114 | Total | 657 | 49 | 45 | 44 | 49 | 64 | 62 | 55 | 61 | 55 | 45 | 53 | 74 | 1 |
| | | Males | 350 | 24 | 21 | 20 | 25 | 39 | 31 | 31 | 31 | 29 | 24 | 35 | 40 | .... |
| | | Females | 306 | 25 | 24 | 24 | 24 | 25 | 31 | 24 | 30 | 26 | 20 | 18 | 34 | 1 |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... |
| Midland | 95 | Total | 205 | 10 | 11 | 13 | 19 | 24 | 16 | 10 | 25 | 26 | 13 | 18 | 20 | .... |
| | | Males | 100 | 2 | 6 | 11 | 7 | 12 | 6 | 3 | 14 | 11 | 9 | 9 | 10 | .... |
| | | Females | 105 | 8 | 5 | 2 | 12 | 12 | 10 | 7 | 11 | 15 | 4 | 9 | 10 | .... |
| Missaukee | 86 | Total | 164 | 14 | 10 | 13 | 13 | 18 | 12 | 8 | 14 | 22 | 10 | 11 | 19 | .... |
| | | Males | 76 | 3 | 4 | 6 | 6 | 11 | 6 | 3 | 5 | 13 | 7 | 4 | 8 | .... |
| | | Females | 88 | 11 | 6 | 7 | 7 | 7 | 6 | 5 | 9 | 9 | 3 | 7 | 11 | .... |
| Monroe | 99 | Total | 609 | 32 | 44 | 37 | 59 | 49 | 65 | 48 | 73 | 33 | 68 | 57 | 44 | .... |
| | | Males | 302 | 14 | 20 | 18 | 27 | 22 | 29 | 34 | 37 | 12 | 34 | 31 | 24 | .... |
| | | Females | 306 | 18 | 24 | 19 | 31 | 27 | 36 | 14 | 36 | 21 | 34 | 26 | 20 | .... |
| | | Unknown | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Montcalm | 99 | Total | 539 | 36 | 24 | 44 | 52 | 50 | 51 | 50 | 45 | 50 | 42 | 45 | 50 | .... |
| | | Males | 268 | 18 | 14 | 23 | 24 | 26 | 24 | 24 | 25 | 26 | 19 | 23 | 22 | .... |
| | | Females | 271 | 18 | 10 | 21 | 28 | 24 | 27 | 26 | 20 | 24 | 23 | 22 | 28 | .... |
| Montmorency | 288 | Total | 31 | 1 | 1 | 1 | 5 | 3 | 2 | 3 | 2 | 3 | 7 | .... | 3 | .... |
| | | Males | 23 | 1 | 1 | 1 | 5 | 1 | .... | 3 | 1 | 2 | 6 | .... | 2 | .... |
| | | Females | 8 | .... | .... | .... | .... | 2 | 2 | .... | 1 | 1 | 1 | .... | 1 | .... |

**Table 17.**—CONTINUED.—*Births by counties, months and sex.*

| Counties. | Births—males to 100 females. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| Muskegon | 111 | Total | 1,023 | 61 | 80 | 66 | 78 | 86 | 83 | 90 | 114 | 106 | 77 | 96 | 86 | .... |
| | | Males | 535 | 26 | 40 | 37 | 42 | 46 | 47 | 52 | 60 | 59 | 41 | 44 | 41 | .... |
| | | Females | 481 | 35 | 39 | 28 | 35 | 39 | 33 | 38 | 54 | 47 | 36 | 52 | 45 | .... |
| | | Unknown | 7 | .... | 1 | 1 | 1 | 1 | 3 | .... | .... | .... | .... | .... | .... | .... |
| Newaygo | 110 | Total | 313 | 17 | 13 | 27 | 30 | 24 | 35 | 35 | 32 | 27 | 24 | 24 | 24 | 1 |
| | | Males | 164 | 12 | 7 | 14 | 12 | 10 | 16 | 21 | 21 | 11 | 13 | 16 | 11 | .... |
| | | Females | 149 | 5 | 6 | 13 | 18 | 14 | 19 | 14 | 11 | 16 | 11 | 8 | 13 | 1 |
| Oakland | 131 | Total | 512 | 31 | 41 | 56 | 36 | 47 | 37 | 47 | 40 | 57 | 41 | 37 | 42 | .... |
| | | Males | 290 | 18 | 26 | 35 | 24 | 22 | 21 | 26 | 23 | 27 | 24 | 23 | 21 | .... |
| | | Females | 222 | 13 | 15 | 21 | 12 | 25 | 16 | 21 | 17 | 30 | 17 | 14 | 21 | .... |
| Oceana | 108 | Total | 301 | 20 | 18 | 25 | 28 | 39 | 19 | 30 | 30 | 22 | 26 | 23 | 21 | .... |
| | | Males | 156 | 7 | 10 | 11 | 17 | 17 | 12 | 16 | 19 | 14 | 11 | 11 | 11 | .... |
| | | Females | 145 | 13 | 8 | 14 | 11 | 22 | 7 | 14 | 11 | 8 | 15 | 12 | 10 | .... |
| Ogemaw | 145 | Total | 108 | 4 | 5 | 11 | 11 | 4 | 8 | 8 | 9 | 13 | 13 | 11 | 11 | .... |
| | | Males | 64 | 1 | 2 | 9 | 9 | 1 | 5 | 4 | 6 | 8 | 5 | 6 | 8 | .... |
| | | Females | 44 | 3 | 3 | 2 | 2 | 3 | 3 | 4 | 3 | 5 | 8 | 5 | 3 | .... |
| Ontonagon | 94 | Total | 68 | 4 | 6 | 7 | 4 | 9 | 7 | 9 | 6 | 5 | 4 | 5 | 2 | .... |
| | | Males | 33 | .... | 1 | 4 | 3 | 4 | 3 | 4 | 4 | 4 | 3 | 3 | .... | .... |
| | | Females | 35 | 4 | 5 | 3 | 1 | 5 | 4 | 5 | 2 | 1 | 1 | 2 | 2 | .... |
| Osceola | 107 | Total | 314 | 26 | 16 | 15 | 29 | 33 | 37 | 28 | 21 | 32 | 25 | 26 | 24 | 2 |
| | | Males | 162 | 17 | 6 | 10 | 11 | 14 | 21 | 15 | 12 | 15 | 9 | 15 | 15 | 2 |
| | | Females | 152 | 9 | 10 | 5 | 18 | 19 | 16 | 13 | 9 | 17 | 16 | 11 | 9 | .... |
| Oscoda | 210 | Total | 31 | 1 | 1 | 2 | 4 | 1 | 2 | 4 | 4 | 6 | 2 | 1 | 3 | .... |
| | | Males | 21 | .... | .... | 1 | 3 | 1 | 2 | 3 | 3 | 2 | 2 | 1 | 3 | .... |
| | | Females | 10 | 1 | 1 | 1 | 1 | .... | .... | 1 | 1 | 4 | .... | .... | .... | .... |
| Otsego | 126 | Total | 52 | 2 | 1 | 6 | 4 | 7 | 8 | 4 | 8 | 3 | .... | 5 | 4 | .... |
| | | Males | 29 | 1 | 1 | 3 | 2 | 5 | 4 | 1 | 4 | 1 | .... | 4 | 3 | .... |
| | | Females | 23 | 1 | .... | 3 | 2 | 2 | 4 | 3 | 4 | 2 | .... | 1 | 1 | .... |
| Ottawa | 99 | Total | 824 | 49 | 69 | 67 | 67 | 75 | 60 | 72 | 72 | 91 | 64 | 69 | 68 | 1 |
| | | Males | 409 | 31 | 33 | 28 | 38 | 29 | 36 | 35 | 39 | 42 | 34 | 30 | 34 | .... |
| | | Females | 414 | 18 | 36 | 39 | 29 | 46 | 24 | 37 | 33 | 48 | 30 | 39 | 34 | 1 |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... |
| Presque Isle | 95 | Total | 166 | 12 | 11 | 20 | 15 | 15 | 21 | 6 | 18 | 15 | 12 | 8 | 13 | .... |
| | | Males | 81 | 6 | 7 | 9 | 11 | 6 | 10 | 4 | 2 | 7 | 7 | 5 | 7 | .... |
| | | Females | 85 | 6 | 4 | 11 | 4 | 9 | 11 | 2 | 16 | 8 | 5 | 3 | 6 | .... |

Table 17.—CONTINUED.—*Births by counties, months and sex.*

| Counties. | Births—males to 100 females. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| Roscommon | 77 | Total | 39 | 1 | 3 | 2 | 7 | 3 | 3 | 2 | 4 | 2 | 6 | 3 | 3 | .... |
| | | Males | 17 | .... | 1 | 1 | 3 | 1 | 3 | .... | 2 | 1 | 3 | 1 | 1 | .... |
| | | Females | 22 | 1 | 2 | 1 | 4 | 2 | .... | 2 | 2 | 1 | 3 | 2 | 2 | .... |
| Saginaw | 114 | Total | 1,918 | 141 | 133 | 181 | 152 | 161 | 151 | 149 | 178 | 173 | 155 | 149 | 165 | .... |
| | | Males | 1,021 | 76 | 74 | 90 | 102 | 82 | 78 | 73 | 100 | 92 | 79 | 82 | 93 | .... |
| | | Females | 894 | 65 | 59 | 91 | 80 | 79 | 73 | 76 | 78 | 78 | 76 | 67 | 72 | .... |
| | | Unknown | 3 | .... | .... | .... | .... | .... | .... | .... | .... | 3 | .... | .... | .... | .... |
| Sanilac | 118 | Total | 699 | 40 | 47 | 66 | 74 | 67 | 58 | 51 | 62 | 56 | 55 | 71 | 52 | .... |
| | | Males | 377 | 24 | 28 | 35 | 39 | 34 | 29 | 28 | 35 | 27 | 31 | 37 | 30 | .... |
| | | Females | 319 | 15 | 19 | 31 | 34 | 33 | 29 | 23 | 26 | 29 | 24 | 34 | 22 | .... |
| | | Unknown | 3 | 1 | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... |
| Schoolcraft | 95 | Total | 144 | 8 | 7 | 14 | 9 | 14 | 10 | 9 | 11 | 18 | 15 | 13 | 16 | .... |
| | | Males | 70 | 1 | 4 | 8 | 5 | 5 | 4 | 4 | 6 | 9 | 8 | 8 | 8 | .... |
| | | Females | 74 | 7 | 3 | 6 | 4 | 9 | 6 | 5 | 5 | 9 | 7 | 5 | 8 | .... |
| Shiawassee | 109 | Total | 441 | 21 | 21 | 31 | 34 | 36 | 40 | 43 | 39 | 47 | 35 | 40 | 54 | .... |
| | | Males | 229 | 13 | 13 | 12 | 19 | 15 | 21 | 15 | 19 | 24 | 26 | 22 | 30 | .... |
| | | Females | 211 | 8 | 8 | 19 | 15 | 21 | 19 | 27 | 20 | 23 | 9 | 18 | 24 | .... |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| St. Clair | 103 | Total | 1,040 | 56 | 68 | 75 | 89 | 71 | 81 | 93 | 109 | 87 | 113 | 98 | 99 | 1 |
| | | Males | 526 | 27 | 32 | 39 | 47 | 34 | 39 | 51 | 48 | 38 | 58 | 65 | 48 | .... |
| | | Females | 513 | 29 | 36 | 36 | 42 | 37 | 42 | 42 | 61 | 49 | 55 | 33 | 51 | .... |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| St. Joseph | 109 | Total | 341 | 21 | 25 | 27 | 25 | 29 | 40 | 31 | 33 | 26 | 27 | 39 | 18 | .... |
| | | Males | 178 | 9 | 12 | 14 | 14 | 10 | 24 | 20 | 20 | 9 | 16 | 20 | 10 | .... |
| | | Females | 163 | 12 | 13 | 13 | 11 | 19 | 16 | 11 | 13 | 17 | 11 | 19 | 8 | .... |
| Tuscola | 109 | Total | 542 | 40 | 41 | 30 | 44 | 47 | 48 | 49 | 43 | 54 | 58 | 43 | 43 | 2 |
| | | Males | 282 | 16 | 20 | 14 | 28 | 22 | 24 | 26 | 24 | 28 | 29 | 25 | 25 | 1 |
| | | Females | 259 | 24 | 21 | 16 | 16 | 25 | 24 | 23 | 19 | 25 | 29 | 18 | 18 | 1 |
| | | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... |
| Van Buren | 98 | Total | 448 | 28 | 25 | 40 | 37 | 44 | 29 | 47 | 61 | 40 | 37 | 34 | 26 | .... |
| | | Males | 215 | 14 | 12 | 25 | 16 | 24 | 11 | 20 | 29 | 21 | 16 | 17 | 10 | .... |
| | | Females | 230 | 13 | 13 | 14 | 21 | 20 | 18 | 27 | 32 | 19 | 21 | 17 | 15 | .... |
| | | Unknown | 3 | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... |
| Washtenaw | 133 | Total | 585 | 44 | 45 | 47 | 60 | 49 | 39 | 55 | 42 | 36 | 46 | 43 | 79 | .... |
| | | Males | 331 | 29 | 29 | 23 | 38 | 24 | 26 | 26 | 19 | 22 | 34 | 16 | 45 | .... |
| | | Females | 249 | 15 | 16 | 23 | 22 | 25 | 13 | 29 | 22 | 14 | 11 | 27 | 32 | .... |
| | | Unknown | 5 | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | 1 | .... | 2 | .... |

**Table 17.**—CONCLUDED.—*Births by counties, months and sex.*

| Counties. | Births—males to 100 females. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| Wayne | 112 | Total | 8,779 | 768 | 698 | 734 | 657 | 712 | 622 | 668 | 717 | 770 | 742 | 760 | 984 | 2 |
| | | Males | 4,624 | 400 | 377 | 384 | 353 | 360 | 348 | 344 | 382 | 387 | 383 | 414 | 491 | 1 |
| | | Females | 4,149 | 368 | 321 | 350 | 303 | 352 | 273 | 319 | 334 | 381 | 359 | 346 | 442 | 1 |
| | | Unknown | 6 | .... | .... | .... | 1 | .... | 1 | .... | 1 | 2 | .... | .... | 1 | .... |
| Wexford | 109 | Total | 277 | 14 | 24 | 34 | 29 | 21 | 17 | 32 | 29 | 22 | 22 | 17 | 15 | 1 |
| | | Males | 144 | 4 | 8 | 23 | 14 | 15 | 13 | 15 | 16 | 7 | 12 | 8 | 8 | 1 |
| | | Females | 132 | 10 | 16 | 11 | 14 | 6 | 4 | 17 | 13 | 15 | 10 | 9 | 7 | .... |
| | | Unknown | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... |

NOTE TO TABLE 17.—COLOR OF CHILDREN BORN IN MICHIGAN, 1892.

Out of 46,221 births, the total number reported for the year, 45,988 were of white parentage. Only 246 children were given as belonging to other colors or races, of whom 91 were black, 41 mulatto and 114 Indian (including 22 halfbreeds). There were 37 of unspecified color. The proportion of white children is so large, constituting 99.39 per cent of the total births, that any deductions in regard to comparative birth-rates in the white and colored population of this State must, necessarily, be of very slight importance and of very doubtful value. Below are given, with specification of sex, the number of births of colors other than white in each county of the State:

BLACK BIRTHS.—Total for State, 91; 59 males, 30 females, 2 of unknown sex. By counties—Wayne, 19 males, 5 females; Cass, 12 males, 6 females; Kent, 5 males, 1 female; Calhoun, 4 males, 1 female; Berrien, Van Buren, each 3 males, 2 females; Washtenaw, 3 males, 2 females, 2 of unknown sex; Lenawee, 2 males, 2 females; Jackson, 2 females; Ionia, Saginaw, each 1 male, 1 female; Benzie, Grand Traverse, Monroe, Oakland, Shiawassee, St. Joseph, each 1 male; Gratiot, Isabella, Kalamazoo, Mecosta, Montcalm, each 1 female.

MULATTO BIRTHS.—Total for State, 41; 19 males, 22 females. By counties—Ingham, 2 males, 6 females; Wayne, 3 males, 1 female; Cass, 2 males, 2 females; Van Buren, 2 males, 1 female; Genesee, Mecosta, each 3 females; Clinton, Kalamazoo, St. Clair, each 1 male and 1 female; Allegan, Berrien, Charlevoix, Gratiot, Isabella, Jackson, Lenawee, each 1 male; Barry, Macomb, Saginaw, each 1 female.

INDIAN BIRTHS.—Total for State, 114; 50 males, 63 females, 1 of unknown sex. There are included in this number 9 males and 13 females of mingled white and Indian parentage. By counties—Emmet, 15 males, 11 females, 1 of unknown sex; Baraga, 6 males, 18 females (5 of each sex halfbreeds); Isabella, 7 males, 5 females; Mackinac, 7 males (4 halfbreeds), 3 females (2 halfbreeds) Saginaw, 3 males and 3 females; Leelanau, 3 males and 5 females; Alcona, 3 males, 1 female; Chippewa, 2 males, 4 females (1 halfbreed); Calhoun, 1 male, 2 females; Charlevoix, 3 females (2 halfbreeds); Mason, 3 females (1 halfbreed); Oceana, 3 females; Arenac, Delta, Dickinson, each 1 male; Allegan, Menominee, each 1 female (halfbreed).

BIRTHS OF UNKNOWN COLOR.—Total for State, 37; 18 males, 13 females and 6 of unspecified sex. By counties—Washtenaw, 13 males, 8 females; Branch, 2 males, 4 females; Mackinac, 1 male, 1 female; Allegan, Jackson, each 1 male; Wayne, 3 of unknown sex; Gratiot, Saginaw, Wexford, each 1 of unknown sex.

The four tables following relate to the important subject of the parent-nativity of children born in this State during the year 1892, together with such comparisons with the results of previous years as are necessary to a full understanding of the subject. In discussing this question in the last report it was noted that the percentage of births of children of native-born parents had diminished with considerable uniformity since 1881, while the percentage of those born of foreign-born parents had proportionately

increased. Attention was called to the "probability, if the present rate of change continues, of the latter being in excess in another year for the first time in the history of the State registration." This prediction has been so far justified, that the percentages of native-born and foreign-born parents of children are found to be the same (39.7 per cent) for the year. It is not probable that this change will progress in the same manner during 1893, nor, perhaps, for some years, as the closing of the mines during the winter of 1893–94 and the financial distress prevailing in the Upper Peninsula in consequence thereof, have greatly diminished the number of marriages from that portion of the State, which has been accustomed to furnish the largest number of marriages of foreign-born persons, together with a high birth-rate for children of foreign-born parents based thereon.

Table 18 exhibits certain facts, with detail of sex, in relation to the number and proportion of births of each parent-nativity for the year 1892. As has been already stated, the percentages of children born of parents both of whom are native-born or both foreign-born, are exactly equal for this year, being 39.7 per cent of the total births. There is still a slightly larger proportion of children born having at least one parent native-born (58.2 per cent) than there is of those with one or both parents foreign-born (57.5 per cent), but a similar diminution in the former and increase in the latter may be noted in comparing a series of years.

**Table 18.**—*Showing, by sex, the parent-nativity of children born in Michigan during the year 1892, according to the returns.*

| Nativity of parents of children born, 1892. | Total births, 1892. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Number. | | | | Per cent of total. | | | |
| | Totals. | Males. | Females. | Unknown. | Totals. | Males. | Females. | Unknown. |
| All nativities | 46,221 | 24,148 | 21,995 | 78 | 100.0 | 100.0 | 100.0 | 100.0 |
| Both parents native-born | 18,368 | 9,569 | 8,766 | 33 | 39.7 | 39.6 | 39.9 | 42.3 |
| Both parents foreign-born | 18,344 | 9,605 | 8,723 | 16 | 39.7 | 39.8 | 39.7 | 20.5 |
| Foreign father and native mother | 5,061 | 2,647 | 2,408 | 6 | 10.9 | 11.0 | 10.9 | 7.7 |
| Foreign mother and native father | 2,922 | 1,559 | 1,360 | 3 | 6.3 | 6.5 | 6.2 | 3.8 |
| Unknown mother, father native | 277 | 141 | 135 | 1 | .6 | .6 | .6 | 1.3 |
| Unknown mother, father foreign | 174 | 101 | 71 | 2 | .4 | .4 | .3 | 2.6 |
| Unknown father, mother native | 270 | 129 | 137 | 4 | .6 | .5 | .6 | 5.1 |
| Unknown father, mother foreign | 96 | 46 | 50 | ..... | .3 | .2 | .2 | ..... |
| Both unknown | 709 | 351 | 345 | 13 | 1.7 | 1.5 | 1.6 | 16.7 |
| One or both native * | 26,898 | 14,045 | 12,806 | 47 | 58.2 | 58.2 | 58.2 | 60.3 |
| One or both foreign * | 26,597 | 13,958 | 12,612 | 27 | 57.5 | 57.8 | 57.3 | 34.6 |

* Including cases where nativity of either parent is unknown.

One other feature appears in this table, although the evidence is not very decisive, namely, the larger proportion of male children born to parents of foreign birth, and the larger proportion of females born to native couples, comparison being made in each case with the percentage of total births, by sex, to each nativity. This relation appears to hold true in examining previous years.

These changes are also shown in Table 19, the year 1892 being compared with 1890 and 1891, and also with the average for the previous ten years, 1882-91. The percentage of native-born fathers is diminishing, as is also that of the native-born mothers, but the latter is still in excess of the percentage of foreign-born mothers. The rise in the proportion of foreign-born fathers continues for the years 1891 and 1892.

**Table 19.**—*Parent-nativity of children born in Michigan for each of the years 1890-92, and the average for ten years, 1882-91.*

| Nativity of parents of children born. | 1890. | | 1891. | | 1892. | | Average for 10 years, 1882-91. | |
|---|---|---|---|---|---|---|---|---|
| | Number. | Per cent of total. | Number. | Per cent of total. | Number. | Per cent of total. | Number. | Per cent of total. |
| All nativities | 52,806 | 100.0 | 50,812 | 100.0 | 46,221 | 100.0 | 44,908 | 100.0 |
| Both native-born | 21,866 | 41.8 | 20,425 | 40.2 | 18,368 | 39.7 | 19,109 | 42.6 |
| Both foreign-born | 20,076 | 38.4 | 20,272 | 39.8 | 18,344 | 39.7 | 16,789 | 37.4 |
| Foreign father and native mother | 5,643 | 10.8 | 5,428 | 10.8 | 5,061 | 10.9 | 4,941 | 11.0 |
| Foreign mother and native father | 3,157 | 6.0 | 3,119 | 6.1 | 2,922 | 6.3 | 2,784 | 6.2 |
| One or both unknown | 1,564 | 3.0 | 1,568 | 3.1 | 1,526 | 3.3 | 1,280 | 2.9 |
| One or both parents native* | 30,666 | 58.4 | 28,972 | 57.0 | 26,351 | 57.0 | 26,534 | 59.8 |
| One or both parents foreign* | 28,876 | 55.2 | 28,819 | 56.8 | 26,327 | 57.0 | 23,201 | 51.7 |
| Father—Native | 25,269 | 48.3 | 23,837 | 46.9 | 21,567 | 46.7 | 22,060 | 49.1 |
| Father—Foreign | 25,909 | 49.5 | 25,942 | 51.0 | 23,579 | 51.0 | 21,887 | 48.6 |
| Father—Unknown | 1,128 | 2.2 | 1,033 | 2.1 | 1,075 | 2.3 | 1,006 | 2.2 |
| Mother—Native | 27,756 | 53.1 | 26,048 | 51.3 | 23,699 | 51.3 | 24,246 | 54.0 |
| Mother—Foreign | 23,331 | 44.6 | 23,483 | 46.2 | 21,362 | 46.2 | 19,660 | 43.8 |
| Mother—Unknown | 1,219 | 2.3 | 1,281 | 2.5 | 1,160 | 2.5 | 997 | 2.2 |

* Excluding cases where nativity of either parent is unknown.

In Table 20 these changes are studied for a longer period of time by means of quinquennial averages, with which the ratios of the individual years 1891 and 1892 are compared. This table should be compared with the similarly constituted one under the subject of marriages, where analogous changes may be seen to have taken place,

although the ratios of marriages of native-born persons are much larger absolutely. Those of foreign-born persons consequently appear to be much more prolific, since a smaller percentage of marriages produces an equal percentage of children.

**Table 20.**—*Parentage of children, by nativity, born in Michigan during the years 1891 and 1892; compared with averages for the quinquennial periods, 1871-75, 1876-80, 1881-85, 1886-90.*

| Years and periods averaged. | Nativity of parents. | | | | |
|---|---|---|---|---|---|
| | Both native-born. | Both foreign-born. | Native father and foreign mother. | Foreign father and native mother. | One or both unknown. |
| Average, 1871-75 | 44.8 | 34.3 | 5.2 | 9.5 | .2 |
| Average, 1876-80 | 46.0 | 34.1 | 5.7 | 11.0 | .1 |
| Average, 1881-85 | 43.7 | 35.5 | 6.2 | 11.5 | .9 |
| Average, 1886-90 | 42.7 | 37.6 | 6.2 | 10.7 | 2.8 |
| Year 1891 | 40.2 | 39.8 | 6.1 | 10.8 | 3.1 |
| Year 1892 | 39.7 | 39.7 | 6.3 | 10.9 | 3.3 |

Table 21 exhibits for each county the nativity of the parents of children born in 1892. For the State, the number of parents both native-born is very slightly in excess of those of foreign birth, but in many counties, especially those of the Upper Peninsula and those containing large cities, the parents of foreign birth greatly outnumber the native-born parents. In the southern portion of the State and among the older settled counties where the birth-rate is small, the reverse is generally true, and the foreign-born parents are in the minority.

Among the counties showing a large predominance of births of children to parents, both of whom were native-born, are Hillsdale, 361 to 5; Cass 212 to 3; Eaton, 318 to 10; Van Buren, 379 to 17; Barry, 289 to 17; Gratiot, 365 to 20, and Branch, 264 to 15. All of these counties, with the exception of Eaton and Gratiot counties, belong to the list of counties with a decreasing population in the last inter-census period and with a low total birth-rate.

In decided contrast to the above, the following counties with a marked excess of births of foreign parentage may be cited: Dickinson, 463 to 39; Gogebic, 496 to 30; Houghton, 1,199 to 204; Marquette, 1,152 to 165; Presque Isle, 126 to 18.

Wayne county, including the city of Detroit, shows a large excess of foreign couples who were parents in 1892 over native couples; the numbers are 5,135 and 2,027 respectively, which should be understood, as in all the preceding cases, to include only cases in which both parents are of the same nativity. An excess of foreign parents may be noted in Kent (Grand Rapids) and Bay (Bay City) counties, but not in Saginaw, in which native parents are slightly in the majority.

**Table 21.**—*Exhibiting for the State and counties of Michigan, by sex, the parent-nativity of children returned for the year 1892. (Still-births included.)*

| State and counties. | Sex. | Children born, 1892. | Nativity of parents of children born in 1892. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Both native-born. | Both foreign-born. | Foreign father and native mother. | Foreign mother and native father. | Mother unknown. | | Father unknown. | | Both unknown. |
| | | | | | | | Father. | | Mother. | | |
| | | | | | | | Native. | Foreign. | Native. | Foreign. | |
| State | Total | 46,221 | 18,368 | 18,344 | 5,061 | 2,922 | 277 | 174 | 270 | 96 | 709 |
| | Males | 24,148 | 9,569 | 9,605 | 2,647 | 1,559 | 141 | 101 | 129 | 46 | 351 |
| | Females | 21,995 | 8,766 | 8,723 | 2,408 | 1,360 | 135 | 71 | 137 | 50 | 345 |
| | Unknown | 78 | 33 | 16 | 6 | 3 | 1 | 2 | 4 | ..... | 13 |
| Alcona | Total | 111 | 34 | 51 | 17 | 5 | ..... | ..... | 4 | ..... | ..... |
| | Males | 70 | 23 | 32 | 7 | 5 | ..... | ..... | 3 | ..... | ..... |
| | Females | 41 | 11 | 19 | 10 | ..... | ..... | ..... | 1 | ..... | ..... |
| Alger | Total | 24 | 7 | 9 | 5 | 1 | ..... | 1 | ..... | ..... | 1 |
| | Males | 17 | 5 | 6 | 4 | 1 | ..... | 1 | ..... | ..... | ..... |
| | Females | 7 | 2 | 3 | 1 | ..... | ..... | ..... | ..... | ..... | 1 |
| Allegan | Total | 702 | 451 | 68 | 72 | 51 | 37 | 13 | 2 | ..... | 8 |
| | Males | 361 | 227 | 35 | 38 | 27 | 18 | 10 | 2 | ..... | 4 |
| | Females | 340 | 224 | 32 | 34 | 24 | 19 | 3 | ..... | ..... | 4 |
| | Unknown | 1 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Alpena | Total | 459 | 65 | 315 | 44 | 27 | 1 | ..... | 3 | 2 | 2 |
| | Males | 251 | 40 | 160 | 29 | 19 | 1 | ..... | 1 | 1 | ..... |
| | Females | 208 | 25 | 155 | 15 | 8 | ..... | ..... | 2 | 1 | 2 |
| Antrim | Total | 226 | 102 | 63 | 34 | 25 | ..... | ..... | 1 | ..... | 1 |
| | Males | 111 | 51 | 31 | 15 | 12 | ..... | ..... | 1 | ..... | 1 |
| | Females | 115 | 51 | 32 | 19 | 13 | ..... | ..... | ..... | ..... | ..... |
| Arenac | Total | 135 | 26 | 77 | 24 | 8 | ..... | ..... | ..... | ..... | ..... |
| | Males | 65 | 13 | 35 | 13 | 4 | ..... | ..... | ..... | ..... | ..... |
| | Females | 70 | 13 | 42 | 11 | 4 | ..... | ..... | ..... | ..... | ..... |
| Baraga | Total | 91 | 24 | 46 | 17 | 3 | 1 | ..... | ..... | ..... | ..... |
| | Males | 37 | 7 | 21 | 8 | 1 | ..... | ..... | ..... | ..... | ..... |
| | Females | 54 | 17 | 25 | 9 | 2 | 1 | ..... | ..... | ..... | ..... |
| Barry | Total | 343 | 289 | 17 | 24 | 8 | ..... | ..... | 4 | ..... | 1 |
| | Males | 180 | 157 | 5 | 15 | 1 | ..... | ..... | 1 | ..... | 1 |
| | Females | 163 | 132 | 12 | 9 | 7 | ..... | ..... | 3 | ..... | ..... |
| Bay | Total | 1,539 | 369 | 760 | 240 | 144 | 4 | 4 | 7 | 2 | 9 |
| | Males | 821 | 212 | 411 | 103 | 83 | 1 | 2 | 4 | 1 | 4 |
| | Females | 717 | 156 | 349 | 137 | 61 | 3 | 2 | 3 | 1 | 5 |
| | Unknown | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

**Table 21.**—CONTINUED.—*Births by counties, parent-nativity and sex.*

| Counties. | Sex. | Children born, 1892. | Nativity of parents of children born in 1892. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Both native-born. | Both foreign-born. | Foreign father and native mother. | Foreign mother and native father. | Mother unknown. Father. | | Father unknown. Mother. | | Both unknown. |
| | | | | | | | Native. | Foreign. | Native. | Foreign. | |
| Benzie | Total | 98 | 47 | 25 | 13 | 7 | 1 | ..... | 1 | ..... | 4 |
| | Males | 56 | 25 | 16 | 6 | 4 | ..... | ..... | 1 | ..... | 4 |
| | Females | 42 | 22 | 9 | 7 | 3 | 1 | ..... | ..... | ..... | ..... |
| Berrien | Total | 566 | 375 | 109 | 37 | 16 | 3 | 2 | 5 | 3 | 16 |
| | Males | 298 | 196 | 53 | 20 | 11 | 1 | 1 | ..... | 1 | 10 |
| | Females | 271 | 177 | 56 | 17 | 5 | 2 | 1 | 5 | 2 | 6 |
| | Unknown | 2 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Branch | Total | 312 | 264 | 15 | 12 | 10 | 5 | ..... | 5 | ..... | 1 |
| | Males | 170 | 147 | 7 | 6 | 7 | 1 | ..... | 2 | ..... | ..... |
| | Females | 142 | 117 | 8 | 6 | 3 | 4 | ..... | 3 | ..... | 1 |
| Calhoun | Total | 742 | 538 | 85 | 63 | 25 | 7 | 4 | 8 | ..... | 13 |
| | Males | 370 | 272 | 43 | 31 | 9 | 4 | ..... | 5 | ..... | 6 |
| | Females | 368 | 263 | 41 | 32 | 16 | 3 | 4 | 3 | ..... | 6 |
| | Unknown | 4 | 3 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Cass | Total | 247 | 212 | 3 | 4 | 7 | 16 | 1 | 2 | ..... | 2 |
| | Males | 141 | 122 | 2 | 3 | 3 | 8 | ..... | 2 | ..... | 1 |
| | Females | 106 | 90 | 1 | 1 | 4 | 8 | 1 | ..... | ..... | 1 |
| Charlevoix | Total | 166 | 75 | 44 | 28 | 15 | ..... | ..... | 3 | ..... | 1 |
| | Males | 86 | 35 | 29 | 14 | 6 | ..... | ..... | 1 | ..... | 1 |
| | Females | 80 | 40 | 15 | 14 | 9 | ..... | ..... | 2 | ..... | ..... |
| Cheboygan | Total | 301 | 77 | 141 | 49 | 32 | ..... | ..... | ..... | ..... | 3 |
| | Males | 152 | 41 | 69 | 24 | 17 | ..... | ..... | ..... | ..... | 1 |
| | Females | 148 | 36 | 71 | 25 | 15 | ..... | ..... | ..... | ..... | 1 |
| | Unknown | 1 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Chippewa | Total | 267 | 28 | 180 | 23 | 16 | 4 | 10 | 2 | 1 | 3 |
| | Males | 146 | 19 | 94 | 14 | 8 | ..... | 7 | 2 | 1 | 1 |
| | Females | 121 | 9 | 86 | 9 | 8 | 4 | 3 | ..... | ..... | 3 |
| Clare | Total | 155 | 67 | 43 | 28 | 13 | 1 | 1 | ..... | ..... | 3 |
| | Males | 79 | 38 | 21 | 12 | 6 | ..... | 1 | ..... | ..... | 1 |
| | Females | 76 | 29 | 22 | 16 | 7 | 1 | ..... | ..... | ..... | 1 |
| Clinton | Total | 482 | 366 | 30 | 48 | 26 | 4 | 2 | 1 | ..... | 5 |
| | Males | 238 | 175 | 15 | 29 | 9 | 1 | 1 | 1 | ..... | 3 |
| | Females | 249 | 191 | 15 | 19 | 17 | 3 | 1 | ..... | ..... | 3 |

**Table 21.**—CONTINUED.—*Births by counties, parent-nativity, and sex.*

| Counties. | Sex. | Children born, 1892. | Nativity of parents of children born in 1892. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Both native-born. | Both foreign-born. | Foreign father and native mother. | Foreign mother and native father. | Mother unknown. | | Father unknown. | | Both unknown. |
| | | | | | | | Father. | | Mother. | | |
| | | | | | | | Native. | Foreign. | Native. | Foreign. | |
| Crawford | Total | 52 | 19 | 18 | 6 | 6 | 2 | ..... | 1 | ..... | ..... |
| | Males | 28 | 11 | 11 | 2 | 1 | 2 | ..... | 1 | ..... | ..... |
| | Females | 24 | 8 | 7 | 4 | 5 | ..... | ..... | ..... | ..... | ..... |
| Delta | Total | 484 | 104 | 255 | 83 | 23 | 2 | 1 | ..... | 1 | 15 |
| | Males | 238 | 40 | 123 | 49 | 14 | 2 | 1 | ..... | 1 | 8 |
| | Females | 245 | 64 | 131 | 34 | 9 | ..... | ..... | ..... | ..... | 7 |
| | Unknown | 1 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Dickinson | Total | 548 | 39 | 463 | 29 | 11 | ..... | 1 | ..... | ..... | 5 |
| | Males | 290 | 21 | 248 | 13 | 6 | ..... | 1 | ..... | ..... | 1 |
| | Females | 258 | 18 | 215 | 16 | 5 | ..... | ..... | ..... | ..... | 4 |
| Eaton | Total | 378 | 318 | 10 | 18 | 17 | 7 | 2 | 3 | ..... | 3 |
| | Males | 189 | 161 | 4 | 6 | 9 | 6 | 1 | 2 | ..... | ..... |
| | Females | 188 | 157 | 6 | 12 | 8 | ..... | 1 | 1 | ..... | 3 |
| | Unknown | 1 | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... |
| Emmet | Total | 136 | 79 | 28 | 16 | 7 | ..... | ..... | 4 | ..... | 2 |
| | Males | 68 | 39 | 14 | 6 | 4 | ..... | ..... | 3 | ..... | 2 |
| | Females | 67 | 39 | 14 | 10 | 3 | ..... | ..... | 1 | ..... | ..... |
| | Unknown | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Genesee | Total | 603 | 429 | 52 | 66 | 45 | ..... | ..... | 2 | ..... | 9 |
| | Males | 313 | 217 | 28 | 39 | 24 | ..... | ..... | ..... | ..... | 5 |
| | Females | 289 | 211 | 24 | 27 | 21 | ..... | ..... | 2 | ..... | 4 |
| | Unknown | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Gladwin | Total | 67 | 22 | 22 | 18 | 4 | ..... | ..... | 1 | ..... | ..... |
| | Males | 31 | 8 | 11 | 10 | 2 | ..... | ..... | ..... | ..... | ..... |
| | Females | 36 | 14 | 11 | 8 | 2 | ..... | ..... | 1 | ..... | ..... |
| Gogebic | Total | 678 | 60 | 496 | 63 | 27 | 2 | 10 | 2 | 2 | 16 |
| | Males | 367 | 33 | 267 | 36 | 11 | 2 | 6 | 2 | 1 | 9 |
| | Females | 309 | 27 | 229 | 26 | 16 | ..... | 4 | ..... | 1 | 6 |
| | Unknown | 2 | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | 1 |
| Grand Traverse | Total | 254 | 134 | 44 | 33 | 28 | 8 | 1 | 3 | 1 | 2 |
| | Males | 126 | 70 | 20 | 19 | 8 | 5 | ..... | 2 | ..... | 2 |
| | Females | 127 | 63 | 24 | 14 | 20 | 3 | 1 | 1 | 1 | ..... |
| | Unknown | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

**Table 21.**—CONTINUED.—*Births by counties, parent-nativity, and sex.*

| Counties. | Sex. | Children born, 1892. | Nativity of parents of children born in 1892. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Both native-born. | Both foreign-born. | Foreign father and native mother. | Foreign mother and native father. | Mother unknown. | | Father unknown. | | Both unknown. |
| | | | | | | | Father. | | Mother. | | |
| | | | | | | | Native. | Foreign. | Native. | Foreign. | |
| Gratiot | Total | 473 | 385 | 20 | 40 | 34 | 6 | 2 | 4 | ..... | 2 |
| | Males | 246 | 198 | 8 | 22 | 13 | 1 | 2 | 2 | ..... | ..... |
| | Females | 225 | 186 | 11 | 18 | 21 | 5 | ..... | 2 | ..... | 2 |
| | Unknown | 2 | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Hillsdale | Total | 393 | 361 | 5 | 12 | 4 | 2 | 1 | 2 | ..... | 6 |
| | Males | 216 | 199 | 3 | 5 | 4 | 2 | ..... | 1 | ..... | 2 |
| | Females | 177 | 162 | 2 | 7 | ..... | ..... | 1 | 1 | ..... | 4 |
| Houghton | Total | 1,691 | 204 | 1,199 | 234 | 49 | ..... | 3 | ..... | ..... | 2 |
| | Males | 901 | 111 | 634 | 128 | 25 | ..... | 2 | ..... | ..... | 1 |
| | Females | 790 | 93 | 565 | 106 | 24 | ..... | 1 | ..... | ..... | 1 |
| Huron | Total | 755 | 121 | 398 | 143 | 88 | 1 | 1 | 2 | ..... | 1 |
| | Males | 388 | 58 | 210 | 70 | 47 | ..... | 1 | 1 | ..... | 1 |
| | Females | 366 | 63 | 188 | 72 | 41 | 1 | ..... | 1 | ..... | ..... |
| | Unknown | 1 | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... |
| Ingham | Total | 699 | 438 | 126 | 51 | 35 | 8 | 1 | 4 | ..... | 36 |
| | Males | 341 | 204 | 65 | 25 | 16 | 6 | ..... | 1 | ..... | 24 |
| | Females | 353 | 231 | 61 | 26 | 19 | 2 | 1 | 3 | ..... | 10 |
| | Unknown | 5 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 |
| Ionia | Total | 488 | 357 | 30 | 47 | 27 | 4 | 4 | 11 | 7 | 1 |
| | Males | 260 | 187 | 21 | 21 | 12 | 4 | 2 | 9 | 3 | 1 |
| | Females | 227 | 170 | 9 | 25 | 15 | ..... | 2 | 2 | 4 | ..... |
| | Unknown | 1 | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... |
| Iosco | Total | 283 | 44 | 137 | 52 | 30 | 3 | 12 | ..... | 1 | 4 |
| | Males | 136 | 22 | 54 | 30 | 16 | 2 | 9 | ..... | ..... | 3 |
| | Females | 144 | 22 | 83 | 21 | 14 | 1 | 1 | ..... | 1 | 1 |
| | Unknown | 3 | ..... | ..... | 1 | ..... | ..... | 2 | ..... | ..... | ..... |
| Iron | Total | 209 | 22 | 126 | 24 | 4 | ..... | 7 | 1 | 2 | 23 |
| | Males | 112 | 10 | 69 | 14 | 2 | ..... | 3 | 1 | ..... | 13 |
| | Females | 96 | 12 | 57 | 10 | 2 | ..... | 4 | ..... | 2 | 9 |
| | Unknown | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| Isabella | Total | 442 | 221 | 102 | 66 | 40 | 7 | 1 | 4 | ..... | 1 |
| | Males | 239 | 115 | 58 | 38 | 22 | 2 | 1 | 2 | ..... | 1 |
| | Females | 203 | 106 | 44 | 28 | 18 | 5 | ..... | 2 | ..... | ..... |

**Table 21.**—CONTINUED.—*Births by counties, parent-nativity and sex.*

| Counties. | Sex. | Children born, 1892. | Nativity of parents of children born in 1892. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Both native-born. | Both foreign-born. | Foreign father and native mother. | Foreign mother and native father. | Mother unknown. | | Father unknown. | | Both unknown. |
| | | | | | | | Father. | | Mother. | | |
| | | | | | | | Native. | Foreign. | Native. | Foreign. | |
| Jackson | Total | 662 | 418 | 99 | 40 | 20 | 23 | 3 | 7 | ..... | 52 |
| | Males | 317 | 204 | 41 | 26 | 9 | 9 | 3 | 3 | ..... | 22 |
| | Females | 340 | 214 | 57 | 14 | 11 | 14 | ..... | 4 | ..... | 26 |
| | Unknown | 5 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 4 |
| Kalamazoo | Total | 685 | 400 | 162 | 69 | 45 | ..... | 2 | 3 | ..... | 4 |
| | Males | 357 | 211 | 79 | 40 | 24 | ..... | 1 | ..... | ..... | 2 |
| | Females | 328 | 189 | 83 | 29 | 21 | ..... | 1 | 3 | ..... | 2 |
| Kalkaska | Total | 106 | 61 | 11 | 24 | 7 | 2 | 1 | ..... | ..... | ..... |
| | Males | 71 | 41 | 8 | 14 | 6 | 1 | 1 | ..... | ..... | ..... |
| | Females | 35 | 20 | 3 | 10 | 1 | 1 | ..... | ..... | ..... | ..... |
| Kent | Total | 2,551 | 1,049 | 1,074 | 235 | 149 | 1 | ..... | 4 | 7 | 32 |
| | Males | 1,320 | 536 | 556 | 126 | 80 | 1 | ..... | 3 | 3 | 15 |
| | Females | 1,222 | 507 | 518 | 109 | 67 | ..... | ..... | ..... | 4 | 17 |
| | Unknown | 9 | 6 | ..... | ..... | 2 | ..... | ..... | 1 | ..... | ..... |
| Keweenaw | Total | 117 | 7 | 90 | 19 | ..... | ..... | 1 | ..... | ..... | ..... |
| | Males | 60 | 3 | 51 | 6 | ..... | ..... | ..... | ..... | ..... | ..... |
| | Females | 57 | 4 | 39 | 13 | ..... | ..... | 1 | ..... | ..... | ..... |
| Lake | Total | 94 | 45 | 27 | 13 | 6 | ..... | ..... | 1 | 1 | 1 |
| | Males | 33 | 15 | 9 | 6 | 2 | ..... | ..... | ..... | 1 | ..... |
| | Females | 61 | 30 | 18 | 7 | 4 | ..... | ..... | 1 | ..... | 1 |
| Lapeer | Total | 377 | 185 | 73 | 66 | 35 | 10 | 2 | ..... | ..... | 6 |
| | Males | 198 | 87 | 40 | 42 | 19 | 6 | ..... | ..... | ..... | 4 |
| | Females | 179 | 98 | 33 | 24 | 16 | 4 | 2 | ..... | ..... | 2 |
| Leelanau | Total | 194 | 79 | 67 | 32 | 15 | ..... | ..... | 1 | ..... | ..... |
| | Males | 102 | 37 | 40 | 17 | 8 | ..... | ..... | ..... | ..... | ..... |
| | Females | 92 | 42 | 27 | 15 | 7 | ..... | ..... | 1 | ..... | ..... |
| Lenawee | Total | 583 | 433 | 66 | 34 | 22 | 1 | ..... | 5 | ..... | 22 |
| | Males | 298 | 221 | 42 | 15 | 6 | 1 | ..... | 2 | ..... | 11 |
| | Females | 285 | 212 | 24 | 19 | 16 | ..... | ..... | 3 | ..... | 11 |
| Livingston | Total | 250 | 200 | 17 | 16 | 13 | 3 | ..... | 1 | ..... | ..... |
| | Males | 110 | 81 | 10 | 9 | 9 | ..... | ..... | 1 | ..... | ..... |
| | Females | 140 | 119 | 7 | 7 | 4 | 3 | ..... | ..... | ..... | ..... |

**Table 21.**—CONTINUED.—*Births by counties, parent-nativity and sex.*

| Counties. | Sex. | Children born, 1892. | Nativity of parents of children born in 1892. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Both native-born. | Both foreign-born. | Foreign father and native mother. | Foreign mother and native father. | Mother unknown. | | Father unknown. | | Both unknown. |
| | | | | | | | Father. | | Mother. | | |
| | | | | | | | Native. | Foreign. | Native. | Foreign. | |
| Luce | Total | 40 | 4 | 26 | 2 | 7 | | | | | 1 |
| | Males | 20 | 3 | 13 | 1 | 3 | | | | | |
| | Females | 20 | 1 | 13 | 1 | 4 | | | | | 1 |
| Mackinac | Total | 125 | 45 | 43 | 14 | 3 | 7 | 4 | 2 | | 7 |
| | Males | 74 | 30 | 22 | 6 | 1 | 6 | 4 | 2 | | 3 |
| | Females | 51 | 15 | 21 | 8 | 2 | 1 | | | | 4 |
| Macomb | Total | 592 | 329 | 127 | 78 | 54 | | | 2 | 1 | 1 |
| | Males | 326 | 186 | 70 | 36 | 32 | | | 1 | 1 | |
| | Females | 266 | 143 | 57 | 42 | 22 | | | 1 | | 1 |
| Manistee | Total | 732 | 120 | 496 | 68 | 32 | 2 | 6 | 2 | | 6 |
| | Males | 389 | 60 | 264 | 41 | 14 | 2 | 4 | 1 | | 3 |
| | Females | 342 | 59 | 232 | 27 | 18 | | 2 | 1 | | 3 |
| | Unknown | 1 | 1 | | | | | | | | |
| Manitou | Total | 7 | 3 | 3 | 1 | | | | | | |
| | Males | 5 | 1 | 3 | 1 | | | | | | |
| | Females | 2 | 2 | | | | | | | | |
| Marquette | Total | 1,526 | 165 | 1,152 | 148 | 49 | | 1 | 3 | 4 | 4 |
| | Males | 815 | 83 | 616 | 83 | 27 | | 1 | 2 | 2 | 1 |
| | Females | 711 | 82 | 536 | 65 | 22 | | | 1 | 2 | 3 |
| Mason | Total | 454 | 162 | 196 | 58 | 29 | 4 | | 3 | | 2 |
| | Males | 261 | 90 | 114 | 32 | 21 | 2 | | 1 | | 1 |
| | Females | 193 | 72 | 82 | 26 | 8 | 2 | | 2 | | 1 |
| Mecosta | Total | 357 | 190 | 95 | 41 | 26 | | 1 | 2 | | 2 |
| | Males | 187 | 106 | 42 | 23 | 13 | | | 1 | | 2 |
| | Females | 170 | 84 | 53 | 18 | 13 | | 1 | 1 | | |
| Menominee | Total | 657 | 126 | 386 | 89 | 39 | 3 | 3 | 3 | | 8 |
| | Males | 350 | 61 | 206 | 46 | 25 | 3 | 3 | 1 | | 5 |
| | Females | 306 | 65 | 180 | 43 | 14 | | | 1 | | 3 |
| | Unknown | 1 | | | | | | | 1 | | |
| Midland | Total | 205 | 103 | 57 | 24 | 21 | | | | | |
| | Males | 100 | 47 | 31 | 11 | 11 | | | | | |
| | Females | 105 | 56 | 26 | 13 | 10 | | | | | |

**Table 21.**—CONTINUED.—*Births by counties, parent-nativity, and sex.*

| Counties. | Sex. | Children born, 1892. | Nativity of parents of children born in 1892. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Both native-born. | Both foreign-born. | Foreign father and native mother. | Foreign mother and native father. | Mother unknown. | | Father unknown. | | Both unknown. |
| | | | | | | | Father. | | Mother. | | |
| | | | | | | | Native. | Foreign. | Native. | Foreign. | |
| Missaukee | Total | 164 | 54 | 71 | 23 | 10 | 2 | 1 | 1 | ..... | 2 |
| | Males | 76 | 21 | 33 | 11 | 7 | 1 | ..... | 1 | ..... | 2 |
| | Females | 88 | 33 | 38 | 12 | 3 | 1 | 1 | ..... | ..... | ..... |
| Monroe | Total | 609 | 494 | 31 | 52 | 19 | 5 | 2 | 3 | ..... | ..... |
| | Males | 302 | 252 | 12 | 22 | 11 | 2 | 2 | 1 | ..... | ..... |
| | Females | 306 | 242 | 22 | 30 | 8 | 3 | ..... | 1 | ..... | ..... |
| | Unknown | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... |
| Montcalm | Total | 539 | 324 | 110 | 47 | 44 | ..... | 1 | 2 | ..... | 11 |
| | Males | 268 | 158 | 56 | 24 | 23 | ..... | ..... | ..... | ..... | 7 |
| | Females | 271 | 166 | 54 | 23 | 21 | ..... | 1 | 2 | ..... | 4 |
| Montmorency | Total | 31 | 7 | 16 | 7 | 1 | ..... | ..... | ..... | ..... | ..... |
| | Males | 23 | 6 | 9 | 7 | 1 | ..... | ..... | ..... | ..... | ..... |
| | Females | 8 | 1 | 7 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Muskegon | Total | 1,023 | 308 | 555 | 77 | 64 | 1 | ..... | 7 | 2 | 9 |
| | Males | 535 | 165 | 283 | 40 | 37 | ..... | ..... | 4 | 1 | 5 |
| | Females | 481 | 141 | 267 | 37 | 27 | 1 | ..... | 3 | 1 | 4 |
| | Unknown | 7 | 2 | 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Newaygo | Total | 313 | 173 | 68 | 40 | 21 | 3 | 1 | 6 | ..... | 1 |
| | Males | 164 | 90 | 36 | 23 | 8 | 2 | 1 | 3 | ..... | 1 |
| | Females | 149 | 83 | 32 | 17 | 13 | 1 | ..... | 3 | ..... | ..... |
| Oakland | Total | 512 | 328 | 59 | 57 | 37 | 14 | 8 | 1 | 4 | 4 |
| | Males | 290 | 187 | 36 | 23 | 26 | 6 | 7 | 1 | 2 | 2 |
| | Females | 222 | 141 | 23 | 34 | 11 | 8 | 1 | ..... | 2 | 2 |
| Oceana | Total | 301 | 195 | 50 | 27 | 22 | ..... | ..... | 5 | ..... | 2 |
| | Males | 156 | 106 | 22 | 13 | 11 | ..... | ..... | 3 | ..... | 1 |
| | Females | 145 | 89 | 28 | 14 | 11 | ..... | ..... | 2 | ..... | 1 |
| Ogemaw | Total | 108 | 38 | 42 | 16 | 10 | ..... | ..... | ..... | 1 | 1 |
| | Males | 64 | 23 | 27 | 6 | 8 | ..... | ..... | ..... | ..... | ..... |
| | Females | 44 | 15 | 15 | 10 | 2 | ..... | ..... | ..... | 1 | 1 |
| Ontonagon | Total | 68 | 27 | 28 | 9 | 4 | ..... | ..... | ..... | ..... | ..... |
| | Males | 33 | 16 | 12 | 5 | ..... | ..... | ..... | ..... | ..... | ..... |
| | Females | 35 | 11 | 16 | 4 | 4 | ..... | ..... | ..... | ..... | ..... |

**Table 21.**—CONTINUED.—***Births by counties, parent-nativity, and sex.***

| Counties. | Sex. | Children born, 1892. | Nativity of parents of children born in 1892. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Both native-born. | Both foreign-born. | Foreign father and native mother. | Foreign mother and native father. | Mother unknown. Father. Native. | Mother unknown. Father. Foreign. | Father unknown. Mother. Native. | Father unknown. Mother. Foreign. | Both unknown. |
| Osceola | Total | 314 | 187 | 91 | 51 | 26 | 3 | 2 | 2 | 1 | 1 |
| | Males | 162 | 72 | 48 | 26 | 12 | 2 | ..... | 2 | ..... | ..... |
| | Females | 152 | 65 | 43 | 25 | 14 | 1 | 2 | ..... | 1 | 1 |
| Oscoda | Total | 31 | 20 | 2 | 4 | 4 | ..... | ..... | 1 | ..... | ..... |
| | Males | 21 | 12 | 2 | 3 | 3 | ..... | ..... | 1 | ..... | ..... |
| | Females | 10 | 8 | ..... | 1 | 1 | ..... | ..... | ..... | ..... | ..... |
| Otsego | Total | 52 | 24 | 18 | 6 | 3 | ..... | 1 | ..... | ..... | ..... |
| | Males | 29 | 13 | 9 | 3 | 3 | ..... | 1 | ..... | ..... | ..... |
| | Females | 23 | 11 | 9 | 3 | ..... | ..... | ..... | ..... | ..... | ..... |
| Ottawa | Total | 824 | 335 | 284 | 119 | 66 | 6 | 8 | 1 | 3 | 2 |
| | Males | 409 | 164 | 143 | 57 | 38 | 2 | 3 | ..... | 1 | 1 |
| | Females | 414 | 170 | 141 | 62 | 28 | 4 | 5 | 1 | 2 | 1 |
| | Unknown | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Presque Isle | Total | 166 | 18 | 126 | 14 | 5 | 1 | ..... | 1 | 1 | ..... |
| | Males | 81 | 11 | 61 | 7 | 2 | ..... | ..... | ..... | ..... | ..... |
| | Females | 85 | 7 | 65 | 7 | 3 | 1 | ..... | 1 | 1 | ..... |
| Roscommon | Total | 39 | 15 | 11 | 10 | 3 | ..... | ..... | ..... | ..... | ..... |
| | Males | 17 | 6 | 6 | 3 | 2 | ..... | ..... | ..... | ..... | ..... |
| | Females | 22 | 9 | 5 | 7 | 1 | ..... | ..... | ..... | ..... | ..... |
| Saginaw | Total | 1,918 | 684 | 668 | 287 | 186 | 5 | 5 | 16 | 12 | 55 |
| | Males | 1,021 | 365 | 353 | 145 | 106 | 2 | 2 | 6 | 8 | 34 |
| | Females | 894 | 317 | 314 | 142 | 80 | 3 | 3 | 10 | 4 | 21 |
| | Unknown | 3 | 2 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Sanilac | Total | 699 | 145 | 306 | 122 | 87 | 7 | 17 | 4 | 5 | 6 |
| | Males | 377 | 83 | 165 | 65 | 51 | 1 | 6 | 1 | 2 | 3 |
| | Females | 319 | 62 | 139 | 57 | 36 | 6 | 11 | 3 | 3 | 2 |
| | Unknown | 3 | ..... | 2 | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| Schoolcraft | Total | 144 | 43 | 68 | 12 | 11 | 2 | 1 | 1 | ..... | 6 |
| | Males | 70 | 24 | 34 | 5 | 4 | ..... | 1 | 1 | ..... | 1 |
| | Females | 74 | 19 | 34 | 7 | 7 | 2 | ..... | ..... | ..... | 5 |
| Wassee | Total | 441 | 267 | 76 | 47 | 26 | 17 | 3 | 3 | ..... | 2 |
| | Males | 229 | 132 | 39 | 33 | 13 | 9 | 2 | ..... | ..... | 1 |
| | Females | 211 | 135 | 37 | 14 | 13 | 8 | 1 | 2 | ..... | 1 |
| | Unknown | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... |

**Table 21.**—CONCLUDED.—*Births by counties, parent-nativity and sex.*

| Counties. | Sex. | Children born, 1892. | Nativity of parents of children born in 1892. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Both native-born. | Both foreign-born. | Foreign father and native mother. | Foreign mother and native father. | Mother unknown. Father. Native. | Mother unknown. Father. Foreign. | Father unknown. Mother. Native. | Father unknown. Mother. Foreign. | Both unknown. |
| St. Clair | Total | 1,040 | 415 | 309 | 176 | 127 | ..... | ..... | 6 | 2 | 5 |
| | Males | 526 | 218 | 154 | 89 | 60 | ..... | ..... | 2 | 2 | 1 |
| | Females | 513 | 197 | 155 | 87 | 67 | ..... | ..... | 4 | ..... | 3 |
| | Unknown | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| St. Joseph | Total | 341 | 267 | 31 | 19 | 15 | 1 | ..... | 4 | ..... | 4 |
| | Males | 178 | 148 | 10 | 8 | 9 | 1 | ..... | 2 | ..... | ..... |
| | Females | 163 | 119 | 21 | 11 | 6 | ..... | ..... | 2 | ..... | 4 |
| Tuscola | Total | 542 | 241 | 116 | 94 | 67 | 10 | 1 | 2 | 1 | 10 |
| | Males | 282 | 130 | 50 | 52 | 39 | 8 | ..... | 1 | ..... | 2 |
| | Females | 259 | 110 | 66 | 42 | 28 | 2 | 1 | 1 | 1 | 8 |
| | Unknown | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Van Buren | Total | 448 | 379 | 17 | 20 | 17 | 4 | 1 | 8 | 1 | 1 |
| | Males | 215 | 183 | 7 | 12 | 8 | 2 | ..... | 2 | ..... | 1 |
| | Females | 230 | 194 | 10 | 7 | 9 | 2 | 1 | 6 | 1 | ..... |
| | Unknown | 3 | 2 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... |
| Washtenaw | Total | 585 | 384 | 85 | 55 | 35 | 1 | 1 | 3 | ..... | 21 |
| | Males | 331 | 217 | 43 | 36 | 22 | 1 | 1 | 1 | ..... | 10 |
| | Females | 249 | 164 | 42 | 18 | 13 | ..... | ..... | 2 | ..... | 10 |
| | Unknown | 5 | 3 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | 1 |
| Wayne | Total | 8,779 | 2,027 | 5,135 | 795 | 506 | 3 | 10 | 61 | 28 | 214 |
| | Males | 4,624 | 1,079 | 2,719 | 415 | 266 | 2 | 5 | 25 | 14 | 99 |
| | Females | 4,149 | 947 | 2,414 | 380 | 239 | 1 | 5 | 36 | 14 | 113 |
| | Unknown | 6 | 1 | 2 | ..... | 1 | ..... | ..... | ..... | ..... | 2 |
| Wexford | Total | 277 | 142 | 89 | 21 | 16 | ..... | 2 | 1 | ..... | 6 |
| | Males | 144 | 76 | 46 | 9 | 10 | ..... | 1 | 1 | ..... | 1 |
| | Females | 132 | 65 | 43 | 12 | 6 | ..... | 1 | ..... | ..... | 5 |
| | Unknown | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

STILL-BIRTHS, TWINS AND ILLEGITIMATES.

The remaining tables of this portion of the report, with the exception of the two at its close referring to delinquent townships and townships reporting "no births," are devoted to the consideration of certain classes of births of peculiar interest, namely, births of still-born children, of twins and of illegitimate children.

**Table 22.**—*Number of pairs of twins, illegitimate children and still-births b in Michigan during the year 1892, by counties.*

| State and counties. | Number of pairs of twins born in 1892.* | Number of illegitimate children born in 1892.† | Number of still-births in 1892. | Counties. | Number of pairs of twins born in 1892. | Number of illegitimate children born in 1892. | Nu be st bir 18 |
|---|---|---|---|---|---|---|---|
| State | 557 | 405 | 1,014 | Iosco | 3 | 1 | |
| | | | | Iron | 4 | 1 | |
| Alcona | 2 | 5 | 3 | Isabella | 3 | 3 | |
| Allegan | 5 | 5 | 18 | Jackson | 12 | 1 | |
| Alpena | 6 | 2 | 2 | Kalamazoo | 11 | 2 | |
| Antrim | 5 | 1 | 4 | Kalkaska | 2 | | |
| Arenac | 2 | | 4 | Kent | 24 | 24 | |
| Baraga | 2 | 1 | | Keweenaw | | 1 | |
| Barry | 6 | 1 | 7 | Lake | | 1 | |
| Bay | 17 | 3 | 45 | Lapeer | 4 | | |
| Benzie | 2 | | 2 | Leelanaw | 6 | | |
| Berrien | 8 | 4 | 20 | Lenawee | 8 | 5 | |
| Branch | 1 | 1 | 2 | Livingston | 1 | 1 | |
| Calhoun | 17 | 2 | 28 | Mackinac | 3 | 3 | |
| Cass | 2 | 4 | 4 | Macomb | 5 | 3 | |
| Charlevoix | | 4 | 4 | Manistee | 13 | 1 | |
| Cheboygan | 3 | 1 | 6 | Marquette | 19 | 7 | |
| Chippewa | 3 | 3 | 4 | Mason | 7 | | |
| Clare | 1 | | 2 | Mecosta | 4 | | |
| Clinton | 6 | | 6 | Menominee | 8 | | |
| Crawford | 1 | 1 | | Midland | 1 | 1 | |
| Delta | 2 | 1 | 2 | Missaukee | | 1 | |
| Dickinson | 11 | | 10 | Monroe | 8 | 5 | |
| Eaton | 4 | 3 | 5 | Montcalm | 6 | 2 | |
| Emmet | 3 | 4 | 1 | Muskegon | 15 | 3 | |
| Genesee | 6 | 2 | 17 | Newaygo | 5 | | |
| Gogebic | 6 | 6 | 15 | Oakland | 8 | 2 | |
| Grand Traverse | 1 | 2 | 5 | Oceana | 5 | 3 | |
| Gratiot | 4 | 4 | 9 | Ontonagon | | | |
| Hillsdale | 4 | 2 | 8 | Osceola | 7 | 4 | |
| Houghton | 26 | 4 | 17 | Oscoda | | | |
| Huron | 9 | 4 | 13 | Otsego | | | |
| Ingham | 4 | 1 | 16 | Ottawa | 13 | 3 | |
| Ionia | 4 | 1 | 8 | Saginaw | 23 | 27 | |

* Includes 35 males, 18 females and 2 of unknown sex still-born.
† Includes 8 males, 7 females and 1 unknown sex, still-born.

**Table 22.**—CONCLUDED.—*Twins, illegitimates and still-births by counties.*

| Counties. | Number of pairs of twins born in 1892. | Number of illegitimate children born in 1892. | Number of still-births in 1892. | Counties. | Number of pairs of twins born in 1892. | Number of illegitimate children born in 1892. | Number of still-births in 1892. |
|---|---|---|---|---|---|---|---|
| Sanilac | 15 | 3 | 16 | Tuscola | 7 | 2 | 11 |
| Schoolcraft | 5 | ..... | 5 | Van Buren | 2 | 6 | 25 |
| Shiawassee | 4 | 2 | 6 | Washtenaw | 3 | ..... | 2 |
| St. Clair | 12 | 6 | 20 | Wayne | 99 | 205 | 165 |
| St. Joseph | 4 | 3 | 19 | Wexford | 5 | 1 | 4 |

Still-births are returned as deaths as well as in births, and in practice it is found that a careful comparison of the two sets of returns is necessary in order that none may be omitted or twice counted. Still-births are defined, for registration purposes, in the instructions issued to the enumerators (supervisors), as cases in which the children were *born dead*, not having lived an appreciable time, hours or days, after birth. It was observed in the examination of the returns that frequently cases would be reported as "still-born" in which the child was also reported to have lived a day or more. For such cases the enumerators are directed to report another cause of death, and the term "unknown" is substituted for "still-born" if no other cause can be ascertained.

There appears to be much difference in statistical practice in the matter of the registration of still-births in different States, and the fact that in some registration returns they are included, while they are entirely omitted in others, should always be borne in mind in making comparisons of the figures representing the total mortality of different States according to their several registration reports. Thus the death-rates as stated in the reports of Michigan, Minnesota, Ontario, Ohio, as well as those of the United States census mortality reports, include the number of still-births in the number of deaths; the death-rates of the reports of Massachusetts (except in certain tables), Connecticut (since 1886), Rhode Island, New Jersey and others do not do so, and consequently should be increased somewhat for comparison with the former—if the great difference in accuracy of registration admitted of any close comparison, between the returns of the States in these two groups, as it does not do at present.

In practice it would seem that the still-births should always be carefully enumerated and the aggregate number stated in connection with the total number of deaths, but their statistical relations otherwise should be confined to their consideration as births. If they be allowed to enter the tables relating to deaths, by ages, they should be kept entirely distinct from the actual deaths, by disease, of live-born children, the number of deaths of children under one month of age being stated exclusive of still-births.

The numbers of pairs of twins, illegitimate births and still-born children occurring in each county of the State, are shown in Table 22. As usual the county of Wayne, which includes Detroit, has a preponderance of illegitimate births, over one-half of the total number being found there. It is not unlikely, however, that this number is unduly increased by children born of mothers resident in other towns, who have sought Detroit for the purpose of concealing the fact of illegitimate parentage.

The ratios of still-born, twin and illegitimate children to the total births of the State are given in Table 23 for four years, 1889-92, and are also compared with the averages of the ten-year period, 1882-91. Still-births and twins are about the same in numbers for each of these years, being about 2.5 per cent of total births. There are about one-third as many illegitimates, .8 to .9 per cent. The last registration report of our neighbor, the Province of Ontario, for the year 1891, shows that 637 illegitimate births were registered during the year, and that, consequently, the population of this State and the Province being almost identical, the illegitimate birth-rate is about one-half larger in Ontario than in Michigan. In regard to this rate the report referred to remarks: "Assuming an approach to correctness in the figures, the ratio of 14.3 per 1,000 births (1.4 per cent), is an exceedingly low one, the ratio in England for 1891 being 42 per 1,000 births (4.2 per cent). This rate is the lowest yet recorded in England. Making the greatest allowance for any defective registrations, the high moral status of the people of Ontario is admirably illustrated by the table."

Without desiring to make any invidious comparisons between the statistics quoted and those of this State, it may be inferred that the moral condition of Michigan, so far as the collected data of illegitimacy are an index thereof, is in a satisfactory state. In Massachusetts the percentage of illegitimates to total births was 1.5 for the year 1892; Rhode Island recorded 1.0 per cent for 1892; Indiana, 1.6 per cent for 1892.

**Table 23.**—*The relation of still-born, twin and illegitimate children to total births returned, for the years 1889-92, and the average for ten years, 1882-91.*

| Still-born, twin and illegitimate children. | Years. | | | | |
|---|---|---|---|---|---|
| | 1889. | 1890. | 1891. | 1892. | Av. for 10 years, 1882-91. |
| All children born | 49 272 | 52,306 | 50,812 | 46,221 | 44,903 |
| Still-births | 1,202 | 1,397 | 1,090 | 1,014 | 1,046 |
| Per cent of still-births to total births | 2.4 | 2.5 | 2.1 | 2.2 | 2.3 |
| Twins | 1,054 | 1,542 | 1,354 | 1,114 | 1,063 |
| Per cent of twins to total births | 2.1 | 2.9 | 2.7 | 2.4 | 2.4 |
| Illegitimates | 421 | 455 | 389 | 405 | 412 |
| Per cent of illegitimates to total births | .8 | .9 | .8 | .9 | .9 |

Table 24 exhibits the facts in regard to plural births for a period of ten years, and also states the ratios that twins and triplets sustain in each of these years to total births. For 1892, the ratio of twins is slightly greater than the average (1 to 84), a pair of twins being reported for every 83 births. The two years immediately preceding, however, far exceed it in this respect. The facts in regard to births of triplets in 1892 are stated in a note to this table. Sex and parent-nativity are equally divided in triplet births for this year.

**Table 24.**—*Exhibiting the number of pairs of twins and cases of triplets returned in Michigan for the ten years 1883-92, and the average for each of these years.*

| Years. | Pairs of twins. | Cases of triplets. | No. of births to one pair of twins. | No. of births to one case of triplets. |
|---|---|---|---|---|
| 1883 | 466 | 9 | 88 | 4,584 |
| 1884 | 450 | 4 | 90 | 10,102 |
| 1885 | 481 | 7 | 88 | 6,017 |
| 1886 | 501 | 6 | 82 | 6,849 |
| 1887 | 528 | 5 | 88 | 9,245 |
| 1888 | 583 | 8 | 84 | 6,119 |
| 1889 | 527 | 6 | 93 | 8,212 |
| 1890 | 771 | 6 | 68 | 8,718 |
| 1891 | 677 | 7 | 75 | 7,259 |
| 1892 | 557 | 6 | 83 | 7,704 |
| Average, 10 years, 1883-92 | 554 | 6 | 84 | 7,476 |

TRIPLETS.—There were six cases of triplets recorded for 1892, as follows: Huron county, 2 males, 1 female, foreign parents, born in June; Kent county, 2 males, 1 female, parents native, born in April; Sanilac county, 1 male, 2 females, foreign mother and native father, born in April; St. Clair county, 3 females, foreign father and native mother, born in April; Wayne county, 3 males, native parents, born in December, and 1 male, 2 females, foreign parents, born in March. All were white, and it will be observed that the parent-nativity was equally divided.

**Table 25.**—*Exhibiting, by sex and months the number of still-born, twin and illegitimate children returned in Michigan for the year 1892.*

| Condition. | Sex. | Year, 1892. | Months of birth, 1892. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| Still-births | Total | 1,014 | 82 | 74 | 91 | 85 | 83 | 85 | 82 | 95 | 72 | 72 | 79 | 113 | 1 |
| | Males | 597 | 43 | 42 | 52 | 55 | 46 | 48 | 52 | 62 | 44 | 46 | 44 | 63 | .... |
| | Females | 374 | 36 | 30 | 36 | 27 | 35 | 32 | 28 | 29 | 23 | 24 | 28 | 46 | .... |
| | Unknown | 43 | 3 | 2 | 3 | 3 | 2 | 5 | 2 | 4 | 5 | 2 | 7 | 4 | 1 |
| Twins* | Total | 1,114 | 88 | 94 | 74 | 70 | 122 | 110 | 100 | 66 | 94 | 98 | 92 | 106 | .... |
| | Males | 553 | 40 | 56 | 35 | 36 | 70 | 50 | 43 | 40 | 37 | 52 | 42 | 52 | .... |
| | Females | 559 | 48 | 38 | 39 | 34 | 52 | 58 | 57 | 26 | 57 | 46 | 50 | 54 | .... |
| | Unknown | 2 | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... |
| Illegitimates | Total | 405 | 31 | 27 | 38 | 49 | 42 | 39 | 41 | 23 | 35 | 28 | 31 | 21 | .... |
| | Males | 191 | 14 | 16 | 19 | 31 | 18 | 13 | 19 | 8 | 16 | 15 | 14 | 8 | .... |
| | Females | 206 | 17 | 11 | 18 | 16 | 24 | 25 | 19 | 15 | 18 | 13 | 17 | 13 | .... |
| | Unknown | 8 | .... | .... | 1 | 2 | .... | 1 | 3 | .... | 1 | .... | .... | .... | .... |

* The total number of twin children, i. e., twice the number of pairs of twins. Triplets are not included.

The months of birth of still-births, twin children and illegitimates may be readily compared in Table 25. This table is affected, probably in the same proportion as the total number of births, by omissions in the early months of the year due to the greater lapse of time before registration, but the relative numbers of births of each class in any month may probably be taken as correctly represented.

In Table 26 the parent-nativities of still-born, twin and illegitimate children are compared for the year 1892, sex being specified in each case. Without attempting to refer to the children born of parents of different or unknown nativities, it may be said that foreign-born parents show a slight excess in the proportion of still-born children, and rather a marked excess in the proportion of twins. Native-born parents, on the contrary, are in the majority as regards illegitimate parentage. This probably does not arise from any greater tendency to immorality on the part of the native white population of the State, but simply from the fact that under the term "native" are included the black, mulatto and Indian inhabitants, for all of which classes the illegitimate birth-rate is high.

**Table 26.**—*Parent-nativity of still-born, twin and illegitimate children returned in Michigan for the year 1892.*

| Nativity of parents. | Number of still-born children, 1892. | | | | Number of pairs of twins, 1892. | | | | | Number of illegitimate children, 1892. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | One of each. | Unknown. | Total. | Males. | Females. | Unknown. |
| All nativities | 1,014 | 597 | 374 | 43 | 557 | 158 | 160 | 238 | 1 | 405 | 191 | 206 | 8 |
| Both native-born | 330 | 205 | 112 | 13 | 206 | 60 | 54 | 92 | .... | 52 | 24 | 25 | 3 |
| Both foreign-born | 346 | 204 | 128 | 14 | 233 | 67 | 70 | 95 | 1 | 25 | 11 | 14 | .... |
| Foreign father and native mother | 109 | 59 | 46 | 4 | 67 | 13 | 21 | 33 | .... | 14 | 7 | 5 | 2 |
| Foreign mother and native father | 56 | 31 | 24 | 1 | 36 | 11 | 11 | 14 | .... | 3 | 2 | 1 | .... |
| Unknown mother, father native | 8 | 1 | 7 | .... | 2 | 1 | 1 | .... | .... | 3 | 2 | 1 | .... |
| Unknown mother, father foreign | 1 | 1 | .... | .... | 3 | 1 | 1 | 1 | .... | 1 | 1 | .... | .... |
| Unknown father, mother native | 9 | 5 | 2 | 2 | 4 | 2 | 1 | 1 | .... | 97 | 46 | 48 | 3 |
| Unknown father, mother foreign | 4 | 1 | 3 | .... | 1 | .... | .... | 1 | .... | 43 | 21 | 22 | .... |
| Both unknown | 151 | 90 | 52 | 9 | 5 | 3 | 1 | 1 | .... | 167 | 77 | 90 | .... |
| One or both native | 512 | 301 | 191 | 20 | 315 | 87 | 88 | 140 | .... | 169 | 81 | 80 | 8 |
| One or both foreign | 516 | 296 | 201 | 19 | 340 | 92 | 103 | 144 | 1 | 86 | 42 | 42 | 2 |

In Table 27 it is shown that about 108 males are born alive for every 100 females; this is the result of the experience of ten years. For 1892 the ratio was 109 to 100. The proportion of males in twin and illegitimate births is smaller, females being in excess among illegitimates. Still-births, on the contrary, show a great excess of males, in explanation of which the added dangers during delivery incident to the larger size of the head in male infants may be referred to.

**Table 27.**—*Exhibiting the proportion of males to females among children born alive, still-births, twins and illegitimates.*

| Condition. | 1891. | | | | 1892. | | | | Average for 10 years, 1882-1891. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Males. | Females. | Unknown. | Males to 100 females. | Males. | Females. | Unknown. | Males to 100 females. | Males. | Females. | Unknown. | Males to 100 females. |
| Born alive | 25,856 | 23,812 | 54 | 109 | 23,551 | 21,621 | 35 | 109 | 22,752 | 21,074 | 31 | 108 |
| Still-births | 583 | 434 | 73 | 134 | 597 | 374 | 43 | 160 | 594 | 411 | 41 | 145 |
| Twins* | 637 | 711 | 6 | 90 | 553 | 559 | 2 | 99 | 544 | 537 | 2 | 101 |
| Illegitimates | 174 | 204 | 11 | 85 | 191 | 206 | 8 | 93 | 176 | 184 | 3 | 96 |

* Twin children, i. e., twice the number of pairs of twins born; triplets not included.

The relations of parent-nativity to plural births may be examined for ten years past in Table 28. Parents both of foreign birth are the most numerous, although the ratio of this class for 1892 is below the ten-year average. A marked feature of that year is the great rise in the percentage of twins born of parents of different nativities.

**Table 28.**—*Exhibiting the parent-nativity of plural births in Michigan for the ten years 1883-92, inclusive.*

| Years. | Total. | Native-born. | | Foreign-born. | | Mixed. | | Unknown. | |
|---|---|---|---|---|---|---|---|---|---|
| | | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. |
| 1883 | 959 | 417 | 43.5 | 364 | 38.0 | 150 | 15.6 | 28 | 2.9 |
| 1884 | 912 | 360 | 39.5 | 396 | 43.4 | 144 | 15.8 | 12 | 1.3 |
| 1885 | 983 | 384 | 39.1 | 414 | 42.1 | 155 | 15.8 | 30 | 3.1 |
| 1886 | 1,020 | 419 | 41.1 | 407 | 40.0 | 176 | 17.3 | 18 | 1.8 |
| 1887 | 1,071 | 448 | 41.8 | 423 | 39.5 | 168 | 15.7 | 32 | 3.0 |
| 1888 | 1,194 | 485 | 40.6 | 530 | 44.4 | 159 | 13 3 | 20 | 1.7 |
| 1889 | 1,072 | 410 | 38.3 | 486 | 45.3 | 172 | 16.0 | 4 | .4 |
| 1890 | 1,561 | 437 | 28.0 | 904 | 57.9 | 214 | 13.7 | 6 | .4 |
| 1891 | 1,375 | 434 | 31.6 | 746 | 54.3 | 183 | 13.3 | 12 | .9 |
| 1892 | 1,132 | 418 | 36.9 | 472 | 41.7 | 232 | 20.5 | 10 | .9 |
| Average, 1883-92 | 1,128 | 421 | 37.3 | 514 | 45.6 | 175 | 15.5 | 17 | 1.5 |

In a similar manner the percentage relations of the mothers of illegitimate children are studied as regards nativity in Table 29. Here the positions of the native-born and foreign-born parents are reversed, the native-born being largely in excess. This comes, as has already been explained, in great part from the inclusion of the colored population among the "natives." In this table the ratios of illegitimate births to total births may also be examined for the ten-year period. This is quite variable as there is probably much variation in the accuracy of enumeration in different years. That for 1892, 8.8 per 1,000 births, slightly exceeds the average, 8.2 per 1,000 births.

**Table 29.**—*Exhibiting the number of illegitimate children born in Michigan in the years 1883–92, inclusive; also the rate of illegitimate births per 1,000 births, and the parent-nativity of the mothers of illegitimates.*

| Years. | Illegitimate children. | | Mothers of illegitimate children. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Total. | Native. | | Foreign. | | Unknown. | |
| | Number. | To every 1,000 births. | | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. |
| 1883 | 311 | 7.6 | 311 | 137 | 44.1 | 86 | 27.7 | 88 | 28.3 |
| 1884 | 193 | 4.8 | 193 | 103 | 53.4 | 69 | 35.8 | 21 | 10.9 |
| 1885 | 248 | 5.9 | 248 | 115 | 46.4 | 86 | 34.7 | 47 | 18.9 |
| 1886 | 300 | 7.3 | 300 | 142 | 47.3 | 45 | 15.0 | 113 | 36.7 |
| 1887 | 422 | 9.1 | 422 | 151 | 35.8 | 72 | 17.1 | 199 | 47.2 |
| 1888 | 591 | 12.1 | 591 | 149 | 25.2 | 72 | 12.2 | 370 | 62.6 |
| 1889 | 421 | 8.5 | 419 | 126 | 30.1 | 73 | 17.4 | 220 | 52.5 |
| 1890 | 455 | 8.7 | 450 | 148 | 32.9 | 73 | 16.2 | 229 | 50.9 |
| 1891 | 389 | 7.7 | 386 | 143 | 37.1 | 66 | 17.1 | 177 | 45.8 |
| 1892 | 405 | 8.8 | 405 | 168 | 40.2 | 71 | 17.5 | 171 | 42.2 |
| Av'age, 1883-92. | 374 | 8.2 | 373 | 138 | 37.0 | 71 | 19.0 | 164 | 44.0 |

**Table 30.**—*By nativity and color, the number and proportion (to total mothers) of mothers having still-births for the years 1890–92, and the average for ten years, 1882–91.*

| Nativity and color of mothers. | 1890. | | | 1891. | | | 1892. | | | Average for 10 years, 1882–91. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mothers having still-births. | Whole number of mothers, including those of still-births. | Per cent of mothers of still-births to all mothers. | Mothers having still-births. | Whole number of mothers, including those of still-births. | Per cent of mothers of still-births to all mothers. | Mothers having still-births. | Whole number of mothers, including those of still-births. | Per cent of mothers of still-births to all mothers. | Mothers having still-births. | Whole number of mothers, including those of still-births. | Per cent of mothers of still-births to all mothers. |
| All colors and nativities | 1,279 | 51,517 | 2.5 | 1,036 | 50,121 | 2.1 | 997 | 45,652 | 2.2 | 1,007 | 44,346 | 2.3 |
| Native born | 507 | 27,469 | 1.9 | 450 | 25,771 | 1.4 | 442 | 23,416 | 1.9 | 442 | 23,962 | 1.8 |
| Foreign born | 542 | 22,834 | 2.4 | 420 | 23,076 | 1.8 | 395 | 21,086 | 1.9 | 408 | 19,366 | 2.1 |
| Unknown | 230 | 1,214 | 19.0 | 166 | 1,274 | 13.0 | 160 | 1,150 | 13.9 | 157 | 1,018 | 15.4 |
| White | 1,220 | 50,992 | 2.4 | 1,006 | 49,799 | 2.0 | 995 | 45,370 | 2.2 | 979 | 43,935 | 2.2 |
| Black | 53 | 324 | 16.4 | 14 | 173 | 8.1 | ..... | 91 | ..... | 15 | 178 | 8.4 |
| Mulatto | ..... | 79 | ..... | 1 | 34 | 2.9 | ..... | 41 | ..... | 3 | 88 | 3.4 |
| Indian | ..... | 107 | ..... | 1 | 87 | 1.1 | ..... | 114 | ..... | 2 | 115 | 1.7 |
| Unknown | 6 | 15 | 40.0 | 14 | 28 | 50.0 | 2 | 36 | 5.6 | 9 | 31 | 29.0 |
| Black and mulatto | 53 | 403 | 13.2 | 15 | 207 | 7.2 | ..... | 132 | ..... | 18 | 265 | 6.8 |

**Table 31.**—*By nativity and color, the number and proportion (to total mothers) of mothers of twin births returned for the years 1890–92, and the average for ten years, 1882–91.*

| Nativity and color of mothers of twins. | 1890. | | | 1891. | | | 1892. | | | Average for 10 years, 1882–91. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number of pairs of twins. | Whole number of mothers, including those of twins. | Per cent of births of twins to all mothers. | Number of pairs of twins. | Whole number of mothers, including those of twins. | Per cent of births of twins to all mothers. | Number of pairs of twins. | Whole number of mothers, including those of twins. | Per cent of births of twins to all mothers. | Number of pairs of twins. | Whole number of mothers, including those of twins. | Per cent of births of twins to all mothers. |
| All colors and nativities | 771 | 51,517 | 1.5 | 677 | 50,121 | 1.4 | 557 | 45,652 | 1.2 | 541 | 44,348 | 1.2 |
| Native-born | 278 | 27,469 | 1.0 | 271 | 25,771 | 1.1 | 277 | 23,416 | 1.2 | 256 | 23,983 | 1.1 |
| Foreign-born | 488 | 22,834 | 2.1 | 399 | 23,076 | 1.7 | 270 | 21,086 | 1.3 | 277 | 19,376 | 1.4 |
| Unknown | 5 | 1,214 | .4 | 7 | 1,274 | .5 | 10 | 1,150 | .9 | 9 | 988 | .9 |
| White | 750 | 50,992 | 1.5 | 673 | 49,799 | 1.4 | 548 | 45,370 | 1.2 | 532 | 43,936 | 1.2 |
| Black | 18 | 324 | 5.6 | 2 | 173 | 1.2 | 3 | 91 | 3.3 | 5 | 178 | 2.8 |
| Mulatto | 1 | 79 | 1.3 | 1 | 34 | 2.9 | ..... | 41 | ..... | 2 | 88 | 2.3 |
| Indian | 1 | 107 | .9 | 1 | 87 | 1.1 | 5 | 114 | 4.4 | 2 | 115 | 1.7 |
| Unknown | 1 | 15 | 6.7 | ..... | 28 | ..... | 1 | 36 | 2.8 | ..... | 31 | .6 |
| Black and mulatto | 19 | 403 | 4.7 | 3 | 207 | 1.4 | 3 | 132 | 2.3 | 7 | 265 | 2.6 |

Tables 30, 31 and 32 present, for still-births, twins and illegitimates respectively, the ratio of the number of mothers of each class to the total number of mothers, grouping being made according to nativity and color or race. With respect to the latter items, the showing for any individual year can be given little weight, since from the small numbers involved, the rates are subject to quite irregular variations. Some general idea may be gained, however, from the study of these tables for a series of years, or from comparison of the ten year averages, of the actual relations involved.

Thus, for still-births it would appear that a larger proportion of such children is born to mothers of foreign birth than to native-born mothers, and also that black and mulatto women bear more than white women in proportion to the total number of births; the reverse is the case as regards Indian and white women.

As to twins, the ratio is distinctly in favor of mothers of foreign birth, and black, mulatto and Indian mothers all exceed the white mothers in this respect.

Illegitimate births show a slight excess of native-born mothers, but a very marked excess of Indian, black and mulatto mothers as compared to the number of white mothers.

Great care must be exercised in making use of the data presented in these tables, and due consideration be given to the relative numbers of the returns for each class on which the ratios are based, as otherwise most erroneous conclusions may be drawn. Especially as regards the colored races, the general unreliability of statistics based on the very small numbers found in the annual returns should be taken into consideration.

**Table 32.**—*By nativity and color, the number and proportion (to total mothers) of mothers of illegitimates returned for the years 1890–92, and the average for ten years, 1882–91.*

| Nativity and color of mothers of illegitimates. | 1890. | | | 1891. | | | 1892. | | | Average for 10 years, 1882-91. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mothers having illegitimates. | Whole number of mothers, including those of illegitimates. | Per cent of mothers of illegitimates to all mothers. | Mothers having illegitimates. | Whole number of mothers, including those of illegitimates. | Per cent of mothers of illegitimates to all mothers. | Mothers having illegitimates. | Whole number of mothers, including those of illegitimates. | Per cent of mothers of illegitimates to all mothers. | Mothers having illegitimates. | Whole number of mothers, including those of illegitimates. | Per cent of mothers of illegitimates to all mothers. |
| All colors and nativities | 450 | 51,517 | .9 | 386 | 50,121 | .8 | 405 | 45,652 | .9 | 360 | 44,349 | .8 |
| Native-born | 145 | 27,469 | .5 | 143 | 25,771 | .6 | 163 | 23,416 | .7 | 135 | 23,984 | .6 |
| Foreign-born | 76 | 22,834 | .3 | 66 | 23,076 | .3 | 71 | 21,086 | .3 | 72 | 19,377 | .4 |
| Unknown | 229 | 1,214 | 18.9 | 177 | 1,274 | 13.9 | 171 | 1,150 | 14.9 | 154 | 988 | 15.6 |
| White | 417 | 50,992 | .8 | 358 | 49,799 | .7 | 386 | 45,370 | .9 | 333 | 43,937 | .8 |
| Black | 17 | 324 | 5.3 | 13 | 173 | 7.5 | 6 | 91 | 6.6 | 9 | 178 | 5.1 |
| Mulatto | 3 | 79 | 3.8 | 1 | 34 | 2.9 | 1 | 41 | 2.4 | 3 | 88 | 3.4 |
| Indian | 8 | 107 | 7.5 | 11 | 87 | 12.6 | 10 | 114 | 8.8 | 7 | 115 | 6.1 |
| Unknown | 5 | 15 | 33.3 | 3 | 28 | 10.7 | 2 | 36 | 5.6 | 9 | 32 | 28.1 |
| Black and mulatto | 20 | 403 | 5.0 | 14 | 207 | 6.8 | 7 | 132 | 5.3 | 12 | 265 | 4.5 |

**Table 33.**—*List of townships in which it was reported that no births occurred in 1892, showing population in 1890.*

| County. | Township. | Population, 1890. | County. | Township. | Population, 1890. |
|---|---|---|---|---|---|
| Alpena | Sanborn | 204 | Marquette | Turin | 100 |
| Arenac | Moffat | 240 | | Sands* | |
| Chippewa | Trout Lake | 112 | Mason | Hamlin | 85 |
| | White Fish | 251 | Missaukee | West Branch | 220 |
| Delta | Fairbanks | 740 | Newaygo | Monroe | 1,066 |
| Emmet | Carp Lake | 236 | Ontonagon | Carp Lake | 15 |
| Houghton | Laird | 159 | | Greenland | 272 |
| Kalkaska | Glade | 183 | Roscommon | Gerrish | 66 |
| Lake | Lake | 59 | | Markey | 28 |
| Luce | Pentland | 347 | | Richfield | 76 |
| Total population reporting "no births" | | | | | 4,472 |

* Not formed at time of census, 1890.

Table 33 exhibits the list of townships in which it was reported by the supervisors that no births occurred in 1892. The aggregate population here represented is 4,472 according to the census of 1890. This is somewhat larger than the number reported for last year, 3,313. It is very probable in some cases, as in Fairbanks township, Delta county, and Monroe township, Newaygo county, that births did occur but were not registered by the enumerators, or, possibly, not transmitted by the county clerks. The population in each of these cases is so large as to render it very unlikely that there were actually no births during the entire year.

**Table 34.**—*List of townships from which no returns of births were received for 1892, showing population in 1890.*

| County. | Township. | Population, 1890. | County. | Township. | Population, 1890. |
|---|---|---|---|---|---|
| Arenac | Turner | 48 | Livingston | Marion ‡ | 1,146 |
| Baraga | Arvon | 209 | | Putnam | 1,242 |
| Benzie | Weldon | 97 | Manitou | South Manitou | 74 |
| Cheboygan | Forest | 161 | Ogemaw | Foster | 167 |
| Clare | Franklin † | 545 | | Logan | 59 |
| | Hamilton | 508 | Ontonagon | Bohemia | 92 |
| Crawford | Blaine | 51 | | Ontonagon | 1,564 |
| | Frederic | 260 | Sanilac | Forester † | 933 |
| | South Branch | 106 | | Moore | 883 |
| Gladwin | Buckeye † | 581 | Schoolcraft | Germfask † | 148 |
| | Bentley* | | | Inwood* † | |
| Grand Traverse | Acme* | | | Thompson | 931 |
| Iosco | Burleigh | 443 | Shiawassee | Bennington | 1,298 |
| | Wilber | 299 | | | |
| Total population of delinquent townships | | | | | 11,845 |

* Not formed at time of census, 1890.
† Returns received too late for compilation in this report.
‡ No enumeration on account of death of supervisor.

The list of delinquent townships given in Table 34, having an aggregate population of 11,845, shows a marked improvement over last year when the population so delinquent amounted to 23,151. This is due partly to the fact that letters asking for corrections and for the returns of delinquent townships were not sent out immediately upon the receipt of the returns in September, 1892, as customary, but the compiler was compelled to delay during the actual process of compilation in 1893 for the purpose of repairing such deficiencies. This, from the lapse of time, was more than usually difficult to do, and the result was that a larger proportion of deficient and delinquent returns appeared for the year 1891 than for any year preceding.

Out of the 27 townships having a total population of 11,845 persons in 1890, which were delinquent in 1892, there were five that finally made a return, though too late for the present report. This reduces the non-reporting population to 9,638; if the pop-

ulation of Marion township, Livingston county, which made no report on account of the death of the supervisor, be also deducted, there remain only 8,492 persons not represented in the returns from the negligence of the supervisors. These are, in fact, inhabitants of some very sparsely settled districts in which it is not unlikely, in some cases, that no births actually occurred during the year.

In some cases during the present year the attention of the prosecuting attorneys of the counties in which certain supervisors had failed to make proper returns, has been called to the delinquencies with very beneficial results. In other cases the difficulty of ascertaining, between the contradictory statements of supervisor and county clerk, where the fault for delinquent returns should be properly placed, has prevented this office from proceeding with as great a degree of promptness as would seem necessary to cause the law to be fully carried out. It is hoped that, if county clerks make early returns as directed by their present instructions, leaving this office to deal with delinquencies of this nature, that a very much more business-like and satisfactory showing can be made in future. Experience has shown that it is folly to expect good results from the class (fortunately few) of negligent, procrastinating supervisors, unless it be clearly understood that the penalties provided by law will be promptly enforced in all cases where its provisions are not complied with.

# PART III.—MARRIAGES IN MICHIGAN DURING THE YEAR 1892.

A larger number of marriages was registered for this year, than for any year preceding. The number was 20,107, and includes all of the marriages performed in 1892, of which returns were made up to and including the returns for the first quarter of 1893. The system regulating the registration of marriages may be considered the most satisfactory of that governing the collection of any class of vital statistics in this State. The returns are made quarterly, instead of being the result of an enumeration for the entire year, made some time after its close, as is the case in the registration of births and deaths. The information required must be given by affidavit as a necessary preliminary to the filling out of the license authorizing the solemnization of the marriage, and is, with very few exceptions, fully and correctly obtained. The character of the record itself is one that commends itself to the public feeling which recognizes the necessity of a complete legal record of all marriages far more fully than it does the importance of preserving the facts relating to births or deaths. As a matter of fact, quite as many applications are made to the central registration office for facts regarding the deaths of pensioners and others as inquiries concerning marriage records, but in many cases it is impossible to supply the information needed.

### DELAY OR NEGLECT IN MAKING RETURNS OF MARRIAGES.

There is one point, however, affecting the accuracy of the marriage returns which is of considerable importance and calls especially for vigilance on the part of the county clerks. This is the item of neglected returns by clergymen or justices of the peace after the performance of marriage ceremonies. When the license is taken out by the applicant, all the particulars of statistical importance are filled out in a form of affidavit, a copy of which is given on the following page.

Using this affidavit as a basis, the county clerk fills out the marriage license, the form of which is given below, as far as possible. The marriage license consists of two parts, an original and a duplicate, both printed on the same sheet and in exactly the same form, except that the directions for use printed at the bottom of the sheet differ. The original is directed "*to be returned to the county clerk who issued the same within ten days after the marriage;*" the duplicate is "*to be retained by the person solemnizing the marriage,*" who, presumably, after making reference to it for the purpose of filling up the certificate of marriage (privately provided) which is delivered to the persons married, may either preserve or destroy it at his pleasure. In many cases the "Certificate of Marriage" on the duplicate is detached and handed to the persons married as their certificate.

*Form of affidavit for license to marry.*

No.....189....

AFFIDAVIT FOR LICENSE TO MARRY.

STATE OF MICHIGAN, } ss.
*County of* .....

| GROOM. FULL NAME OF GROOM. | BRIDE. FULL NAME OF BRIDE. |
|---|---|
| Age at last birthday.....years. | Age at last birthday .....years. |
| White, Black, Mulatto, Indian, etc.... | White, Black, Mulatto, Indian, etc..... |
| Residence ..... | Residence ..... |
| Birthplace ..... | Birthplace ..... |
| Occupation ..... | Occupation ..... |
| Father's name ..... | Father's name ..... |
| Mother's maiden name ..... | Mother's maiden name ..... |
| Number of times previously married.. | Number of times previously married... |
| | Maiden name, if a widow..... |

.....being duly sworn deposes and says (or affirms) that according to the best of h.... knowledge and belief the information above given is correct, that ..... is acquainted with the provisions of the laws of Michigan relating to marriage, as printed on the back of this affidavit, and that no legal impediment exists why.....and .....may not be married under the laws of Michigan.

.....

Sworn and subscribed to before me, a ..... .....in and for .....County, Michigan, this.....day of.....189..

.....

.....

NOTE.—The official should ascertain that affiant understands the full nature of this obligation, reading or having read the extracts printed on the back hereof.

The foregoing particulars, with the accompanying forms of blanks, are given for the purpose of showing the simplicity and effectiveness of the system if properly carried out. The larger part of the clerical work is done by the county clerks who receive ample compensation therefor (fifty cents for the issue of each license), and who, as a rule, furnish excellent returns. The clergyman or justice of the peace has only to fill up the blanks under "Certificate of Marriage" in the original and duplicate return, and transmit the original to the county clerk within ten days after the performance of the ceremony. This seems to involve a trifling amount of labor, and in view of the fact that the officiating clergymen often receive a handsome compensation for their services, an integral part of which, under the law of Michigan, is the proper placing of the marriage upon record, it would be supposed that there would be little delinquency in this respect. While, indeed, the amount of such delinquency is not very great, it is sufficiently large to demand great pains on the part of the county clerks to secure full and prompt returns of marriages within the time (ten days) prescribed by law for their return after the performance of the ceremony.

*Form of marriage license and return.*

No. .... 18...

MARRIAGE LICENSE.

..... County,
State of Michigan.

*To any person legally authorized to solemnize marriage,*

GREETING:

Marriage may be solemnized between Mr. ..... and M....., affidavit having been filed in this office, as provided by Act 128, Laws of 1887, by which it appears that said ..... is ... years of age, color is ...., residence is ....., and birthplace was ....., occupation is ....., father's name ....., and mother's maiden name was ....., has been previously married .. time..; and that said ..... is ... years of age, color is ...., residence is ....., and birthplace was ....., occupation is ....., father's name ....., and mother's maiden name was ....., and who has been previously married ... time.., and whose maiden name was .....

In witness whereof, I have hereunto attached my hand and the seal of..... county, Michigan, this .... day of ....., A. D. 18...

.....,

[L. S.] *County Clerk.*

CERTIFICATE OF MARRIAGE.

Between Mr. ..... and M.....

I hereby certify that, in accordance with the above license, the persons herein mentioned were joined in marriage by me, at ....., county of ....., Michigan, on the ... day of ....., A. D. 18.., in the presence of ....., of ....., and ....., of ....., as witnesses.

.....,
Name of magistrate or clergyman.

.....,
Official title.

NOTE.—This original is to be returned to the county clerk who issued the same, within ten days after the marriage.

Let us see how the county clerk's records are affected by such neglect on the part of the persons who perform marriages. When a license was issued by the clerk of Isle Royal county to John Brown and Joanna Smith, he immediately proceeded to fill out the proper entry in the permanent books of record provided by the State for that county as far as the facts contained in the affidavit for license permitted. These were (1) the record number assigned; (2) the date of issue of license; (3) the names of parties; (4) ages; (5) color; (6) birthplaces; (7) occupations; (8) names of fathers; (9) names of mothers; and, lastly, (10) whether either party had been previously married, and how many times if so. The essential fact of record, whether a marriage of the parties has actually been performed, as provided in the license, cannot be registered until the clergyman's or justice's certificate is received to that effect. In too many instances this is never received by the county clerk, and the marriage records at the county seat, as well as the transcript thereof at the State Department, contain no conclusive testimony to the fact. The license alone may be regarded as very weak presumptive proof, since in some cases, owing to change of mind or other reasons, the license may be issued but never used. The following is the form of the entry in the county clerk's record, and also in the transcript sent to the State Department; the black-faced type shows the important items that depend on a proper return by the person officiating.

*Example of the form of record of a marriage preserved by the county clerk, showing the* **essential facts of record** *dependent upon a proper return by the clergyman or magistrate who performed the ceremony.*

| Record number. | Date of license. | | | Full name of bridegroom and bride and maiden name of bride if a widow. | Age of each in years. | White, black, mulatto, etc. | Residence of each. | Birthplace of each. | Occupation of each. | Name of father of each. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Month. | Day. | Year. | | | | | | | |
| 616 | June | 30 | 1892 | John Brown | 26 | White | Isle Royal Tp. | Michigan | Miner | Jas. Brown |
| | | | | Joanna Smith | 22 | White | Eagle River | England | Housework | W. Smith |

| Maiden name of mother of each. | Times previously married. | Date of marriage. | | | Place of marriage. | Name and official station of person by whom married. | Witnesses to marriage. | |
|---|---|---|---|---|---|---|---|---|
| | | Month. | Day. | Year. | | | Names. | Residences. |
| Anna Dale | Once | *July* | *3* | *1892* | *Eagle River, Keweenaw Co., Mich.* | *H. James, Clergyman.* | *Anna James* | *Eagle River.* |
| Mary Dow | None. | | | | | | *J. Francis* | *Boston.* |

An effort is made by the State Department upon the arrival of the returns for the year, and previous to compilation, to complete these defective records. The returns are carefully examined, the points of deficiency noted in such record numbers as are not complete, and a circular letter sent to each county clerk asking for such additional returns as may have been received since the time of sending in the quarterly transcript. In writing for the corrections of 1892 (the marriages in the present report), 1,282 such delinquent returns were written for, and the records were completed in 978 cases.

As regards the obligation imposed upon clergymen or other persons who officiate at marriages to make a prompt return to the county clerks, the law of the State is very explicit in its requirements:—

"It shall be the duty of the clergyman or magistrate, officiating at a marriage, to fill out the spaces of the certificate left blank for the entry of the time and place of the marriage, the names and residences of two witnesses, and his own signature in certification that the marriage has been performed by him. He shall separate the duplicate license and certificate, and retain one-half for his own record, and he shall return the other half within ten days to the county clerk issuing the same.

* * * * * * * *

"Any clergyman or magistrate who shall join together in marriage parties who have not delivered to him a properly issued license, as provided for in this act, or who shall violate any of the provisions of this act, shall be adjudged guilty of a misdemeanor, and shall be punished by a fine of one hundred dollars, or, in default of payment thereof, by imprisonment in the county jail for a term of ninety days.

"Any person whose duty it shall be to return a marriage certificate to the county clerk, who shall neglect to return said certificate, shall be adjudged guilty of a misdemeanor, and shall be punished by a fine of not exceeding one hundred dollars or ninety days imprisonment, or both, in the discretion of the court."—Act No. 128, Public Acts of 1887, §§ 4, 6 and 7.

Taking into consideration the necessity of the preservation of a legal record of marriages for the protection of property rights, the shielding of the innocent, against whom grievous wrong may be worked by the unlawful suppression of the record of a marriage (witness a celebrated case recently tried in which an important feature was the suppression of the record of a marriage performed in New York city by an eminent clergyman), and from considerations of public policy, which demand that the present just and reasonable marriage law shall be thoroughly carried out by all intrusted with its execution, it may be asserted that *failure to comply strictly with the requirements of the law on the part of clergymen and magistrates authorized to solemnize marriages is inexcusable, and the full penalty of the law should be enforced in every such case.*

The practical difficulty in the enforcement of the law arises from the fact that no officer is designated to see to its execution, and to make complaint in case of neglect to the prosecuting attorney. The county clerks should naturally perform this duty, and from their knowledge of the dates of issue of licenses and of the clergymen and magistrates before whom the marriages are usually performed, would have little difficulty in securing a more careful compliance with the law.

SUMMARY OF THE REGISTRATION OF MARRIAGES IN 1892.

A condensed statement of the principal features of interest in the registration of marriages in Michigan for the year 1892 is herewith presented:

| | |
|---|---|
| **Total number of marriages solemnized,** | 20,107 |
| **Marriages per 1,000 estimated population,** | 9.2 |
| **Persons married per 1,000 population,** | 18.4 |
| **Persons married per 1,000 estimated population of marriageable age (1,381,739),*** | 29.1 |
| **Increase of number of marriages registered for the year 1892 (20,107) over the number for 1891 (19,231)** | 876 |

The largest number of marriages took place in **November** of any month in the year, **2,181 or 10.8 per cent;** the smallest number was recorded for **January, 1,335 or 6.6 per cent.**

Of the 20,107 marriages, there were:

| | |
|---|---|
| **Both bridegroom and bride of native birth,** | 11,368 |
| **Both bridegroom and bride of foreign birth,** | 4,073 |

Including mixed marriages, i. e., those in which the parties were of different nativities, there were married:

| | |
|---|---|
| **Males of native birth,** | 13,287 |
| **Males of foreign birth,** | 6,799 |
| **Females of native birth,** | 13,998 |
| **Females of foreign birth,** | 5,619 |

Of the 40,214 persons married, the following was the distribution according to color:

| | |
|---|---|
| **White,** | 39,789 |
| **Colored (Black, 150; Mulatto, 159; Indian, 116),** | 425 |

As to age at marriage, the most important groups were:

| | |
|---|---|
| **Males aged 20 to 24 inclusive,** | 7,741 or 38.5 per cent. |
| **Males aged 25 to 29 inclusive,** | 6,218 " 30.9 " |
| **Females aged under 20 years,** | 6,223 " 30.9 " |
| **Females aged 20 to 24 inclusive,** | 8,277 " 41.2 " |
| **Average age of native-born males married in 1892,** | 28.0 years. |
| **Average age of native-born females married in 1892,** | 23.2 " |
| **Average age of foreign-born males married in 1892,** | 29.4 " |
| **Average age of foreign-born females married in 1892,** | 24.5 " |
| **Number of males married below legal age (18 years),** | 1 |
| **Number of females married below legal age (16 years),** | 11 |

* The number of persons in Michigan of marriageable age (18 years and over for males, and 16 years and over for females) in 1892 is thus estimated: There were 1,275,101 persons of both sexes in the State in June, 1890, according to the last census, aged 18 years and over; the corresponding number for 1880 was 964,705. Assuming that the average annual increase from 1880 to 1890 continued for the years 1891 and 1892, the population of Michigan in 1892 aged 18 years and over would be 1,337,180. We have as yet no statement of the population of the State in 1890 by separate years of age, and so do not know how many females were aged 16 or 17 years in 1890. There were 32,147 at those ages in 1880, and if the same ratio to population over 18 exists in 1892 (a fair assumption), we have by proportion,—964,705 : 1,337,180 : : 32,147 : x = 44,559. Adding this estimate of females aged 16 and 17 years in 1892 to the total number of both sexes aged 18 and over for that year, we have as the total estimated population of lawful age to marry, 1,381,739.

### MARRIAGE-RATES IN MICHIGAN IN 1892.

Referring to Table 5, Part I, where the rates per 1,000 population for persons married are stated for all previous years of registration, it appears that the rate recorded for 1892, 18.4 per 1,000, is higher than that for any year since 1883. It is 1.3 per 1,000 in excess of the rate for the five-year period 1886-90.

The marriage-rates for individual counties of the State may be found in Table 12, Part I. Owing to their more perfect registration, there is less variation between the different counties compared than obtains for either births or deaths. The following counties show rates decidedly below the State average, 18.4 per 1,000 population:—Alcona, Alger, Antrim, Cheboygan, Iosco, Lake, Mackinac, Manitou, Menominee, Montmorency, Oceana, Ogemaw, Oscoda, Presque Isle, Roscommon and Tuscola. All of these, except Menominee and Tuscola, are thinly populated counties. Benzie, Gogebic and Keweenaw counties are the only ones that show remarkably high marriage-rates. From the high birth- and death-rates also indicated it would appear that these counties have greatly increased in population since 1890, or, what was probably the case, that the census enumeration was very defective. The rates as stated would appear higher, this being true, than they actually are as based upon the correct number of inhabitants in 1892.

The amount of increase or decrease in the actual number of marriages returned from the several counties for the year 1892 as compared with the year immediately preceding, is stated in Table 13, Part I. There were 876 more marriages returned for the State in 1892 than in 1891, this increase being quite uniformly distributed among the counties. Among the counties showing the largest numerical increase are the following:—Branch, 57; Dickinson, 106; Gogebic, 72; Hillsdale, 45; Jackson, 49; Mason, 41, Oakland, 41; Sanilac, 57; Wayne, 255. Kent county showed a decrease of 45 marriages; Marquette of 72; Menominee of 71 and Muskegon of 51.

In the following synopsis, the arrangement and general contents of the tables relating to marriages, are stated:—

*Synopsis of tables relating to marriages.*

| Table. | Marriages in Michigan, 1892. |
|---|---|
| 35. | Marriages by quarters, 1892, compared with 1890-91, and with the average for ten years, 1882-91. |
| 36. | Marriages by months, 1892, compared with 1890-91, and with the average for ten years, 1882-91. Months arranged in order of number of marriages performed in each. |
| 37. | Marriages by months, 1892,—detailed statement by counties. |
| 38. | Number and per cent of persons married, by nativity and sex, 1892. |
| 39. | Marriages in Michigan, by nativity, 1892, compared with 1891, and quinquennial averages for the periods 1871-75, 1876-80, 1881-85, 1886-90. |
| 40. | The average ages, by nativity, of persons married in Michigan in 1892, compared with 1889-91, and with the mean of ten years, 1882-91. |
| 41. | (*a*) Marriages by nativity and (*b*) number of persons married by sex and periods of age in 1892,—detailed statement by counties. |
| 42. | Marriages in 1892 arranged according to the periods of age of bridegrooms and brides. |
| 43. | Number of persons married in Michigan under the legal ages, by sex, during ten years, 1883-92. |
| 44. | Comparison of the per cents of males married at each period of age in 1892, with 1891, and with the quinquennial periods, 1871-75, 1876-80, 1881-85, 1886-90. |
| 45. | Comparison of the per cents of females married at each period of age in 1892, with 1891, and with the quinquennial periods 1871-75, 1876-80, 1881-85, 1886-90. |

MARRIAGES BY MONTHS AND QUARTERS.

Table 35 shows the number of marriages returned for each quarter of 1892, and also the relative percentages of the total number returned for each quarter. The last quarter of the year is, as usual, highest on the record, nearly one-third or 31.2 per cent of the year's marriages having been solemnized therein.

The foot-note appended to this table shows the number of delayed marriage returns received from the clerks of several counties since the compilation of last year. In all only nineteen such delayed returns were received, six being those of marriages that occurred in 1890, and thirteen those of marriages in 1891. Several years ago, under the old marriage law, it was not uncommon to record several hundred marriages returned since the compilation of the last report. The present system, which requires a license and an early return of each marriage to the county clerk, has obviated this difficulty and removed all necessity for the tabular comparisons of "marriages returned" and "marriages corrected" given in previous reports.

**Table 35.**—*Marriages by quarters of the year for each of the years 1890-92, and the average for the years 1882-91. Corrected for additional returns up to March 31, 1893.**

| Year and quarters. | 1890. | | 1891. | | 1892. | | Average for 10 years, 1882-91. | |
|---|---|---|---|---|---|---|---|---|
| | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. |
| Year | 18,664 | 100.0 | 19,244 | 100.0 | 20,107 | 100.0 | 17,325 | 100.0 |
| Quarter ending Mar. 31 | 3,816 | 20.4 | 4,131 | 21.5 | 4,332 | 21.5 | 3,749 | 21.6 |
| Quarter ending June 30 | 4,452 | 23.8 | 4,544 | 23.6 | 4,884 | 24.3 | 4,019 | 23.2 |
| Quarter ending Sept. 30 | 4,489 | 24.1 | 4,512 | 23.4 | 4,619 | 23.0 | 4,174 | 24.1 |
| Quarter ending Dec. 31 | 5,905 | 31.6 | 6,056 | 31.5 | 6,267 | 31.2 | 5,378 | 31.0 |
| Unknown | 2 | ..... | 1 | ..... | 5 | ..... | 5 | ..... |
| Average | 4,666 | 25.0 | 4,811 | 25.0 | 5,027 | 25.0 | 4,331 | 25.0 |

* Since the last compilation six marriages have been returned for 1890, as follows: Bay, 1; Oceana, 1; Otsego, 4. For 1891 there are thirteen to be added to the number given in the last report: Bay, 6; Eaton, 1; Huron, 2; Kent, 1; Midland, 1; Oceana, 2.

The order of the months, as regards their selection for marriages, is shown in Table 36. November heads the list, as in the ten-year average. The percentage of June marriages continues to increase as in the recent years shown in the table, the rank of that month in 1892 being high above its place in the ten-year average.

**Table 36.**—*Marriages by months, in order of number, for the years 1890–1892, compared with the averages for the ten years 1882–1891. Corrected for additional returns up to March 31, 1893.**

| 1890. | | | 1891. | | | 1892. | | | Average for 10 years, 1882–91. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Months. | Number. | Per cent of total. | Months. | Number. | Per cent of total. | Months. | Number. | Per cent of total. | Months. | Number. | Per cent of total. |
| Year..... | 18,664 | 100.0 | Year..... | 19,244 | 100.0 | Year..... | 20,107 | 100.0 | Year..... | 17,298 | 100.0 |
| Nov..... | 2,057 | 11.0 | Dec..... | 2,086 | 10.8 | Nov..... | 2,181 | 10.8 | Nov..... | 1,823 | 10.5 |
| Dec..... | 1,994 | 10.7 | Oct..... | 1,986 | 10.3 | Dec..... | 2,049 | 10.2 | Dec..... | 1,773 | 10.2 |
| Oct..... | 1,854 | 9.9 | Nov..... | 1,984 | 10.3 | Oct..... | 2,037 | 10.1 | Oct..... | 1,770 | 10.1 |
| Sept..... | 1,739 | 9.3 | Sept..... | 1,749 | 9.1 | Sept..... | 1,826 | 9.1 | Sept..... | 1,559 | 9.1 |
| April..... | 1,614 | 8.6 | April..... | 1,623 | 8.4 | June..... | 1,751 | 8.7 | April..... | 1,406 | 8.1 |
| June..... | 1,482 | 7.9 | June..... | 1,502 | 7.8 | May..... | 1,590 | 7.9 | July..... | 1,339 | 7.7 |
| July..... | 1,436 | 7.7 | Jan..... | 1,466 | 7.6 | April..... | 1,543 | 7.7 | May..... | 1,315 | 7.6 |
| May..... | 1,356 | 7.3 | May..... | 1,419 | 7.4 | Mar..... | 1,542 | 7.7 | Jan..... | 1,299 | 7.5 |
| Jan..... | 1,315 | 7.0 | Aug..... | 1,383 | 7.2 | Feb..... | 1,455 | 7.2 | June..... | 1,292 | 7.5 |
| Aug..... | 1,314 | 7.0 | July..... | 1,380 | 7.2 | Aug..... | 1,407 | 7.0 | Mar..... | 1,274 | 7.4 |
| Feb..... | 1,252 | 6.7 | Mar..... | 1,339 | 6.9 | July..... | 1,386 | 6.9 | Aug..... | 1,240 | 7.2 |
| Mar..... | 1,249 | 6.7 | Feb..... | 1,326 | 6.9 | Jan..... | 1,335 | 6.6 | Feb..... | 1,173 | 6.8 |
| Unk..... | 2 | ..... | Unk..... | 1 | ..... | Unk..... | 5 | ..... | Unk..... | 5 | ..... |
| Av.†..... | 1,555 | 8.3 | Av.†..... | 1,604 | 8.3 | Av.†..... | 1,676 | 8 3 | Av.†..... | 1,442 | 8.3 |

* See counties from which additional marriages have been added in note to Table 35.
† Average includes unknown month.

The detailed exhibit by counties and months of marriages returned in 1892 is seen in Table 37. To this table is appended as a foot-note a statement of the facts in regard to marriages of colored persons which has formerly been presented in a special table. The total number of colored marriages is so small, however, that this table consisted mainly of blank spaces, and it is believed that the data can be better examined in the condensed form here given. The number of marriages between persons of different race or color is somewhat greater than that recorded for 1891, possibly owing to greater care in specifying the facts.

In Table 11, Part I, will be found a comparison of the number of persons married, by color, with the number of colored births and deaths and with the colored population of the State as given by the last census.

**Table 37.**—*Distinguishing by counties and by months, the number of marriages returned for the year 1892.*

| State and counties. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| State | 20,107 | 1,335 | 1,455 | 1,542 | 1,543 | 1,590 | 1,751 | 1,386 | 1,407 | 1,826 | 2,037 | 2,181 | 2,049 | 5 |
| Alcona | 40 | ---- | 2 | 3 | 4 | ---- | 7 | 4 | 4 | 7 | 3 | 4 | 2 | ---- |
| Alger | 8 | ---- | 1 | ---- | 1 | ---- | 2 | 2 | 1 | 1 | ---- | ---- | ---- | ---- |
| Allegan | 361 | 31 | 29 | 29 | 32 | 16 | 29 | 20 | 20 | 29 | 38 | 35 | 53 | ---- |
| Alpena | 161 | 9 | 16 | 12 | 9 | 13 | 16 | 12 | 12 | 18 | 12 | 16 | 16 | ---- |
| Antrim | 84 | ---- | 7 | 6 | 3 | 12 | 7 | 5 | 3 | 12 | 6 | 9 | 14 | ---- |
| Arenac | 50 | 3 | 2 | 1 | 1 | 6 | 4 | 6 | 5 | 3 | 2 | 10 | 7 | ---- |
| Baraga | 45 | 5 | 4 | 1 | 5 | 5 | 2 | 3 | 4 | 3 | 6 | 4 | 3 | ---- |
| Barry | 217 | 11 | 12 | 26 | 15 | 20 | 22 | 7 | 10 | 25 | 19 | 21 | 29 | ---- |
| Bay | 516 | 40 | 45 | 26 | 34 | 47 | 48 | 31 | 30 | 56 | 48 | 49 | 61 | 1 |
| Benzie | 84 | 2 | 4 | 9 | 9 | 3 | 11 | 8 | 6 | 10 | 4 | 11 | 7 | ---- |
| Berrien | 420 | 29 | 20 | 28 | 28 | 24 | 40 | 31 | 36 | 52 | 48 | 42 | 42 | ---- |
| Branch | 302 | 19 | 18 | 31 | 27 | 12 | 24 | 21 | 21 | 18 | 43 | 38 | 30 | ---- |
| Calhoun | 426 | 20 | 36 | 34 | 37 | 38 | 34 | 26 | 20 | 42 | 40 | 47 | 52 | ---- |
| Cass | 188 | 11 | 15 | 18 | 10 | 15 | 14 | 15 | 8 | 12 | 26 | 25 | 19 | ---- |
| Charlevoix | 88 | 6 | 7 | 4 | 8 | 4 | 7 | 4 | 12 | 9 | 9 | 7 | 6 | ---- |
| Cheboygan | 95 | 5 | 3 | 10 | 9 | 7 | 6 | 6 | 9 | 10 | 13 | 13 | 4 | ---- |
| Chippewa | 128 | 9 | 7 | 13 | 8 | 8 | 9 | 13 | 8 | 8 | 13 | 17 | 15 | ---- |
| Clare | 68 | 1 | 5 | 6 | 12 | 5 | ---- | 3 | 11 | 8 | 5 | 6 | 6 | ---- |
| Clinton | 237 | 13 | 11 | 19 | 8 | 24 | 15 | 10 | 13 | 23 | 39 | 33 | 29 | ---- |
| Crawford | 28 | 1 | 5 | 1 | 4 | 5 | 2 | 2 | 1 | 2 | ---- | ---- | 5 | ---- |
| Delta | 147 | 6 | 13 | 7 | 13 | 9 | 10 | 15 | 11 | 17 | 17 | 19 | 10 | ---- |
| Dickinson | 147 | 12 | 11 | 10 | 9 | 16 | 18 | 8 | 11 | 15 | 14 | 13 | 10 | ---- |
| Eaton | 355 | 27 | 27 | 41 | 24 | 25 | 25 | 22 | 16 | 21 | 34 | 44 | 49 | ---- |
| Emmet | 105 | 10 | 7 | 6 | 6 | 10 | 12 | 9 | 9 | 9 | 7 | 7 | 13 | ---- |
| Genesee | 367 | 17 | 25 | 34 | 35 | 24 | 30 | 24 | 28 | 37 | 37 | 47 | 29 | ---- |
| Gladwin | 43 | 1 | 4 | 1 | 3 | 5 | 4 | 6 | 1 | 3 | 6 | 4 | 5 | ---- |
| Gogebic | 286 | 20 | 10 | 5 | 13 | 24 | 21 | 22 | 23 | 28 | 35 | 10 | 24 | 1 |
| Gd. Traverse | 161 | 12 | 4 | 9 | 18 | 14 | 11 | 16 | 13 | 10 | 15 | 18 | 21 | ---- |
| Gratiot | 265 | 23 | 23 | 26 | 22 | 21 | 18 | 13 | 9 | 26 | 23 | 25 | 36 | ---- |
| Hillsdale | 315 | 19 | 19 | 26 | 20 | 21 | 37 | 22 | 16 | 26 | 38 | 32 | 38 | 1 |
| Houghton | 399 | 37 | 30 | 13 | 31 | 36 | 46 | 18 | 40 | 25 | 41 | 54 | 28 | ---- |
| Huron | 281 | 16 | 31 | 19 | 18 | 20 | 29 | 18 | 14 | 23 | 27 | 33 | 33 | ---- |
| Ingham | 384 | 24 | 34 | 26 | 30 | 27 | 37 | 22 | 25 | 33 | 38 | 46 | 42 | ---- |

**Table 37.—CONTINUED.—*Marriages by counties and months.***

| Counties. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| Ionia | 339 | 32 | 28 | 35 | 22 | 26 | 24 | 17 | 27 | 24 | 27 | 37 | 40 | .... |
| Iosco | 114 | 5 | 5 | 9 | 7 | 8 | 10 | 10 | 7 | 13 | 16 | 9 | 15 | .... |
| Iron | 47 | 7 | 2 | 3 | 7 | 4 | 2 | 5 | 2 | 5 | 1 | 3 | 6 | .... |
| Isabella | 212 | 12 | 18 | 15 | 13 | 19 | 19 | 20 | 19 | 17 | 22 | 20 | 18 | .... |
| Jackson | 440 | 23 | 30 | 39 | 40 | 29 | 41 | 25 | 27 | 34 | 47 | 52 | 52 | 1 |
| Kalamazoo | 433 | 17 | 37 | 45 | 35 | 36 | 50 | 28 | 22 | 33 | 49 | 48 | 33 | .... |
| Kalkaska | 49 | 1 | 6 | 4 | 4 | 4 | 2 | 3 | 3 | 8 | 1 | 8 | 5 | .... |
| Kent | 1,242 | 84 | 89 | 84 | 87 | 102 | 106 | 83 | 91 | 117 | 131 | 141 | 127 | .... |
| Keweenaw | 32 | 3 | 3 | 1 | 2 | 1 | 3 | 1 | 4 | 1 | 2 | 5 | 6 | .... |
| Lake | 49 | ..... | 5 | 6 | 4 | 1 | 6 | 3 | 2 | 7 | 6 | 5 | 4 | .... |
| Lapeer | 287 | 20 | 19 | 40 | 23 | 11 | 12 | 22 | 22 | 27 | 36 | 24 | 31 | .... |
| Leelanau | 62 | 3 | 2 | 6 | 8 | 6 | 4 | 5 | 4 | 4 | 7 | 6 | 7 | .... |
| Lenawee | 421 | 31 | 30 | 55 | 24 | 33 | 28 | 19 | 30 | 49 | 41 | 46 | 35 | .... |
| Livingston | 183 | 9 | 18 | 17 | 16 | 10 | 10 | 10 | 7 | 19 | 18 | 28 | 21 | .... |
| Luce | 24 | 2 | 2 | 3 | 2 | 1 | 1 | 4 | 1 | 1 | 4 | 1 | 2 | .... |
| Mackinac | 51 | 2 | 4 | 2 | 2 | 3 | 6 | 4 | 5 | 6 | 5 | 6 | 6 | .... |
| Macomb | 243 | 17 | 20 | 12 | 33 | 13 | 25 | 9 | 16 | 15 | 31 | 27 | 25 | .... |
| Manistee | 229 | 22 | 19 | 9 | 16 | 23 | 16 | 17 | 21 | 23 | 13 | 28 | 27 | .... |
| Manitou | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | 1 | ..... | .... |
| Marquette | 396 | 39 | 23 | 18 | 40 | 29 | 31 | 40 | 25 | 35 | 32 | 42 | 42 | .... |
| Mason | 172 | 11 | 7 | 10 | 7 | 22 | 6 | 23 | 14 | 27 | 17 | 12 | 16 | .... |
| Mecosta | 190 | 11 | 10 | 15 | 14 | 16 | 16 | 19 | 13 | 14 | 15 | 19 | 28 | .... |
| Menominee | 162 | 9 | 9 | 7 | 23 | 12 | 14 | 19 | 18 | 8 | 13 | 15 | 15 | .... |
| Midland | 90 | 6 | 5 | 10 | 4 | 5 | 8 | 6 | 4 | 12 | 7 | 8 | 15 | .... |
| Missaukee | 45 | 2 | 1 | 1 | 6 | 2 | 4 | 7 | 3 | 5 | 3 | 5 | 6 | .... |
| Monroe | 327 | 23 | 21 | 22 | 23 | 35 | 20 | 17 | 22 | 33 | 38 | 41 | 32 | .... |
| Montcalm | 277 | 23 | 26 | 25 | 17 | 14 | 23 | 22 | 16 | 22 | 22 | 32 | 35 | .... |
| Montmorency | 13 | ..... | 1 | 1 | 1 | 1 | 1 | 1 | ..... | 2 | 1 | 2 | 2 | .... |
| Muskegon | 331 | 24 | 23 | 25 | 27 | 30 | 33 | 28 | 22 | 33 | 19 | 35 | 32 | .... |
| Newaygo | 169 | 10 | 15 | 18 | 14 | 7 | 10 | 21 | 17 | 10 | 18 | 15 | 14 | .... |
| Oakland | 329 | 21 | 31 | 40 | 22 | 12 | 35 | 11 | 22 | 31 | 22 | 43 | 39 | .... |
| Oceana | 115 | 5 | 6 | 17 | 5 | 3 | 12 | 9 | 10 | 7 | 10 | 13 | 18 | .... |
| Ogemaw | 40 | 3 | 3 | 1 | 3 | 3 | 1 | 3 | 6 | 3 | 3 | 1 | 5 | .... |
| Ontonagon | 40 | 1 | 1 | 2 | 4 | 3 | 4 | 1 | 4 | 5 | 6 | 6 | 3 | .... |
| Osceola | 119 | 8 | 4 | 12 | 12 | 6 | 3 | 10 | 9 | 7 | 16 | 13 | 19 | .... |
| Oscoda | 14 | 2 | ..... | ..... | 2 | 1 | 2 | ..... | 1 | ..... | 1 | 2 | 3 | .... |

**Table 37.**—CONCLUDED.—*Marriages by counties and months.*

| Counties. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| Otsego | 42 | 2 | 3 | 3 | 6 | 3 | 3 | 7 | 1 | 2 | 2 | 7 | 3 | .... |
| Ottawa | 280 | 12 | 17 | 27 | 29 | 29 | 22 | 19 | 15 | 26 | 21 | 31 | 32 | .... |
| Presque Isle | 28 | 1 | 1 | 2 | 6 | 3 | 1 | 1 | 2 | 1 | ..... | 7 | 3 | .... |
| Roscommon | 9 | 1 | ..... | ..... | 1 | 1 | 1 | 1 | 2 | ..... | 1 | ..... | 1 | .... |
| Saginaw | 727 | 42 | 46 | 44 | 55 | 78 | 63 | 49 | 59 | 65 | 85 | 80 | 61 | .... |
| Sanilac | 277 | 21 | 12 | 22 | 25 | 22 | 29 | 16 | 21 | 19 | 29 | 39 | 22 | .... |
| Schoolcraft | 82 | 4 | 7 | 1 | 9 | 6 | 5 | 7 | 4 | 13 | 13 | 11 | 2 | .... |
| Shiawassee | 357 | 24 | 19 | 39 | 22 | 18 | 31 | 24 | 27 | 29 | 37 | 41 | 45 | 1 |
| St. Clair | 502 | 26 | 48 | 36 | 36 | 35 | 43 | 39 | 37 | 41 | 52 | 51 | 58 | .... |
| St. Joseph | 211 | 15 | 16 | 27 | 11 | 9 | 21 | 11 | 15 | 26 | 17 | 21 | 22 | .... |
| Tuscola | 248 | 20 | 18 | 22 | 18 | 31 | 20 | 16 | 13 | 20 | 28 | 21 | 21 | .... |
| Van Buren | 273 | 25 | 18 | 28 | 14 | 24 | 15 | 17 | 21 | 21 | 29 | 30 | 31 | .... |
| Washtenaw | 362 | 26 | 27 | 28 | 31 | 24 | 32 | 23 | 20 | 41 | 34 | 34 | 42 | .... |
| Wayne | 2,540 | 175 | 202 | 141 | 190 | 247 | 264 | 183 | 196 | 231 | 273 | 265 | 173 | .... |
| Wexford | 135 | 9 | 11 | 13 | 15 | 13 | 16 | 7 | 7 | 13 | 10 | 10 | 11 | .... |

NOTE TO TABLE 37.—COLOR OF PERSONS MARRIED IN MICHIGAN, 1892.

Out of the total of 20,107 marriages returned as having occurred in Michigan during the year 1892, 19,894 were between persons white in color. There were 77 marriages of blacks, 80 of mulattoes and 56 between Indians. The white marriages constitute 98.94 per cent of the total marriages of all colors, a preponderance so great as to render any detailed study of marriages by color in Michigan of very trivial importance. There were 27 marriages of mixed race, a somewhat larger number than that recorded for 1891, owing, doubtless, to greater care in noting the details of color. These are included in the totals, white, black, mulatto, etc., the rule being to classify the marriage according to the color of the groom. When the race is given as "half-breed" or "white and Indian," the case has been included is the number of Indians.

BLACK MARRIAGES.—Total for State, 77. By counties:—Wayne, 26; Washtenaw, 15; Berrien, 7, Calhoun, 5; Jackson, 4; Kalamazoo, 3; Cass, Kent, Lenawee, Mecosta, Saginaw, each 2; Bay, Ingham, Ionia, Iron, Monroe, St. Clair, Van Buren, each 1.

MULATTO MARRIAGES.—Total for State, 80. By counties:—Wayne, 32; Cass, 19; Kalamazoo, 7; Kent, 5; Berrien, Calhoun, Van Buren, each 3; Jackson, 2; Emmet Ingham, Mecosta, Montcalm, Newaygo, Saginaw, each 1.

INDIAN MARRIAGES.—Total for State, 56. By counties:—Isabella, 13; Baraga, 11; Mason, 7; Charlevoix, 5; Arenac, Delta, Mackinac, each 2; Alger, Bay, Cheboygan, Chippewa, Emmet, Houghton, Iosco, Kalamazoo, Leelanau, Manistee, Marquette, Missaukee, Oceana, Saginaw, each 1.

MIXED MARRIAGES.—Total for State, 27. Nine white males married colored females, as follows:—black—Kalamazoo, 1; Indian—Baraga, Delta, each 1; Emmet, 3; half-breed—Chippewa, 1; Mackinac, 2. Nine black males married females of other color, as follows:—white—Berrien, Iron, Wayne each 1; Kent, 2; mulatto—Kalamazoo, Wayne, each 2. Two mulatto males married white females—one each in Newaygo and Wayne counties—and three married black females—one in Calhoun, two in Wayne. An Indian male married a white female in each of the counties of Charlevoix, Cheboygan and Mackinac, and in Houghton county the marriage of an Indian male and a black female occurred.

NATIVITY OF PERSONS MARRIED.

Table 38 compares the number of bridegrooms and brides married in Michigan during 1892 with respect to nativity. Nearly two-thirds of the grooms were of native

birth, the percentage (66.1) being slightly larger than that for 1891 (65.6). The percentage of native brides has also slightly increased, while the percentages of foreign males and females married have correspondingly diminished.

**Table 38.**—*By nativity, the number and per cent of brides and bridegrooms returned for the year 1892.*

| Bridegrooms and brides,—nativity specified. | | Brides, 1892. | | | Bridegrooms, 1892. | |
|---|---|---|---|---|---|---|
| | | Native-born. | Foreign-born. | Unknown. | Total of each nativity and of all nativities. | Per cent of each nativity. |
| Bridegrooms | Native-born | 11,368 | 1,544 | 375 | 13,287 | 66.1 |
| | Foreign-born | 2,617 | 4,073 | 109 | 6,799 | 33 8 |
| | Unknown | 13 | 2 | 6 | 21 | .1 |
| Brides | Whole No. of each nativity and total. | 13,998 | 5,619 | 490 | 20,107 | |
| | Per cent of each nativity | 69.6 | 27.9 | 2.4 | | 100.0 |

The percentage of marriages of each nativity, including under this heading not only those marriages in which the brides and grooms are both natives of the United States or both foreign-born, but also those groups in which native-born males married foreign-born females and *vice versa*, may be seen in the following table. The corresponding figures for 1891 are stated for the purpose of comparison, and also, by means of the black-faced figures, representing averages for quinquennial periods, the comparison may be extended over previous years of registration, beginning in 1871. With slight exceptions, as in the present year, the ratio of purely native marriages is now steadily decreasing and that of marriages of foreign-born persons is becoming greater.

**Table 39.**—*Nativity of marriages in Michigan for the years 1891 and 1892; compared with averages for the quinquennial periods, 1871-75, 1876-80, 1881-85, 1886-90.*

| Years and periods averaged. | Nativity of marriages. | | | | |
|---|---|---|---|---|---|
| | Both native-born. | Both foreign-born. | Native groom and foreign bride. | Foreign groom and native bride. | One or both unknown. |
| Average, 1871-75 | 59.7 | 18.5 | 7.0 | 12.3 | 2.6 |
| Average, 1876-80 | 63.2 | 14.0 | 7.4 | 13.3 | 2.2 |
| Average, 1881-85 | 58.2 | 19.4 | 8.7 | 12.4 | 1.3 |
| Average, 1886-90 | 56.4 | 20.3 | 8.1 | 13.2 | 2.0 |
| Year 1891 | 55.7 | 20.2 | 7.8 | 13.6 | 2.7 |
| Year 1892 | 56.5 | 20.3 | 7.7 | 13.0 | 2.5 |

AVERAGE AGE AT MARRIAGE, BY NATIVITY.

The average ages for each year given in Table 40 are obtained by multiplying the number of persons of each sex and nativity who married at each age into the age of marriage and dividing the sums of these products by the respective totals for each nativity. Such figures obtained for 1892 correspond quite closely to those given for the years 1889-91, and to the ten-year average. Males of native birth are over a year

younger at marriage, on the average, than those of foreign birth, and native females marry nearly two years younger than foreign. The difference in the latter case in 1892, however, was only 1.3 years.

**Table 40.**—*The average ages, by nativity, of persons married in Michigan during the year 1892; compared with the corresponding figures for 1889–1891 and with the mean of the averages for the ten years 1882–1891.*

| Nativity of persons married. | 1889. | | 1890. | | 1891. | | 1892. | | Mean of the average ages for 10 years, 1882-91. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Males. | Females. | Males. | Females. | Males. | Females. | Males. | Females. | Males. | Females. |
| Total | 28.2 | 23.5 | 28.9 | 24.3 | 28.5 | 23.6 | 28.5 | 23.7 | 28.5 | 23.6 |
| Native-born | 27.9 | 22.9 | 28.1 | 22.8 | 28.0 | 23.0 | 28.1 | 23.2 | 27.9 | 23.0 |
| Foreign-born | 29.0 | 24.5 | 29.3 | 24.6 | 29.3 | 24.7 | 29.4 | 24.5 | 29.3 | 24.6 |
| Unknown | 26.3 | 25.8 | 27.0 | 25.6 | 29.3 | 27.3 | 28.9 | 27.5 | 29.1 | 24.9 |

Table 41 is really a union of two distinct tabular statements. The portion on the left of the central column give a detailed exhibit for the State and counties of the number of marriages of each nativity. The remainder of the table states the number of persons married, by sex, at each period of age. Three-fourths of all persons married were between 20 and 25 years of age at the time of union; comparisons of marriage-ages, by sex, can be better made by means of Tables 42–45, following.

With respect to the distribution of marriages, by nativity, among the counties of the State, very much of interest may be observed. Great differences exist in the relative numbers of native and foreign marriages in the thickly-settled southern part of the Lower Peninsula, which is slightly affected by immigration, and the rapidly growing communities of Northern Michigan. In these latter there has been a great influx of foreigners seeking employment in the mining and lumbering industries, and the records of certain counties show that the purely American population is so small that marriages in which both parties are native-born are quite exceptional.

In Dickinson county the marriages of foreign-born couples numbered 108, while those of native-born couples were only 14.

In Gogebic county there were returned 189 foreign marriages and only 19 marriages of native couples.

In Houghton county the proportion was: foreign, 239; native, 83.

In Marquette: foreign, 244; native, 60.

On the other hand, Allegan shows 286 native couples to only 23 foreign; Berrien, 315 to 40; Branch, 272 to 4; Calhoun, 334 to 21; Cass, 162 to 2; Clinton, 201 to 4; Eaton, 323 to 3; Genesee, 274 to 17; Hillsdale, 260 to 3; Ingham, 291 to 30; Ionia, 284 to 10; Lenawee, 340 to 22; Monroe, 273 to 11; Oakland, 243 to 15; Shiawassee, 277 to 21; Van Buren, 240 to 2.

The counties containing large cities show generally a large proportion of foreign marriages, but not in excess of those of natives. In Wayne county during the year there were 915 foreign marriages to 921 native ones.

It is probable that foreign-born marriages will soon be in excess for the county of Wayne, as they already are for the city of Detroit.

The list of counties given above showing a large excess of native-born marriages will be found, on examination, to correspond with the list of counties given in the last report (Exhibit 26, page 20) which showed an actual loss of population during the ten-year period between the last two United States censuses.

**Table 41.**—*Exhibiting for the State and counties (a) the number of marriages by nativity, and (b) the number of persons married by sex and age in periods of years.*

| State and counties. | Number of marriages, 1892. | (a) Number of marriages, by nativity, 1892. | | | | | | | | | Sex. | (b) Number of persons married, by groups of ages, 1892. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Both native-born. | Both foreign-born. | Foreign-born males, native females. | Foreign-born females, native females. | Females unknown. Males. Native. | Females unknown. Males. Foreign. | Males unknown. Females. Native. | Males unknown. Females. Foreign. | Both unknown. | | Under 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Both unknown. |
| State | 20,107 | 11,368 | 4,073 | 2,617 | 1,544 | 375 | 109 | 13 | 2 | 6 | Total | 6,603 | 16,018 | 9,059 | 3,613 | 1,720 | 1,034 | 729 | 504 | 329 | 280 | 174 | 85 | 35 | 13 | 18 |
| | | | | | | | | | | | Males | 380 | 7,741 | 6,218 | 2,564 | 1,140 | 640 | 459 | 317 | 210 | 186 | 133 | 72 | 30 | 11 | 6 |
| | | | | | | | | | | | Females | 6,223 | 8,277 | 2,841 | 1,049 | 580 | 394 | 270 | 187 | 119 | 94 | 41 | 13 | 5 | 2 | 12 |
| Alcona | 40 | 12 | 11 | 9 | 7 | 1 | | | | | Males | 2 | 19 | 9 | 6 | 2 | | | | | 2 | | | | | |
| | | | | | | | | | | | Females | 18 | 13 | 4 | 2 | 1 | 1 | | | | 1 | | | | | |
| Alger | 8 | 4 | 2 | 1 | 1 | | | | | | Males | | 2 | 2 | 2 | 2 | | | | | | | | | | |
| | | | | | | | | | | | Females | 3 | 2 | 3 | | | | | | | | | | | | |
| Allegan | 361 | 286 | 23 | 28 | 21 | 3 | | | | | Males | 9 | 148 | 93 | 37 | 19 | 10 | 11 | 8 | 7 | 8 | 4 | 5 | 1 | 1 | |
| | | | | | | | | | | | Females | 110 | 150 | 40 | 20 | 9 | 6 | 7 | 6 | 3 | 6 | 2 | 2 | | | |
| Alpena | 161 | 27 | 67 | 34 | 22 | 4 | 7 | | | | Males | 2 | 51 | 65 | 19 | 10 | 6 | 5 | 3 | | | | | | | |
| | | | | | | | | | | | Females | 63 | 60 | 17 | 11 | 6 | 1 | 2 | 1 | | | | | | | |
| Antrim | 84 | 48 | 10 | 18 | 7 | 1 | | | | | Males | | 33 | 27 | 8 | 7 | 4 | 2 | 2 | 1 | | | | | | |
| | | | | | | | | | | | Females | 35 | 23 | 15 | 3 | 3 | 1 | 3 | 1 | | | | | | | |
| Arenac | 50 | 20 | 11 | 14 | 4 | 1 | | | | | Males | 1 | 25 | 14 | 3 | 2 | 3 | 1 | | 1 | | | | | | |
| | | | | | | | | | | | Females | 29 | 15 | 4 | | | 1 | 1 | | | | | | | | |
| Baraga | 45 | 18 | 18 | 4 | | 1 | 4 | | | | Males | | 17 | 16 | 6 | 3 | 1 | | 1 | | | | | | | 1 |
| | | | | | | | | | | | Females | 15 | 19 | 5 | 3 | 1 | | 1 | | 1 | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Barry | 217 | 187 | 8 | 18 | 3 | 8 | 3 | | | | Males | 5 | 93 | 55 | 23 | 13 | 7 | 8 | 6 | 2 | 3 | | 1 | | 1 | | | | | |
| | | | | | | | | | | | Females | 30 | 81 | 20 | 12 | 10 | 4 | 2 | 4 | | | 3 | | | | 1 | | | | |
| Bay | 516 | 185 | 138 | 105 | 64 | 17 | 7 | | | | Males | 8 | 199 | 166 | 66 | 34 | 19 | 8 | 7 | 3 | 2 | 3 | | | | 1 | | | | |
| | | | | | | | | | | | Females | 158 | 219 | 71 | 26 | 20 | 11 | 4 | 4 | 1 | 1 | | | | | 1 | | | | |
| Benzie | 84 | 54 | 9 | 16 | 5 | | | | | | Males | | 28 | 30 | 11 | 8 | 1 | 3 | | | | | 3 | | | | | | | |
| | | | | | | | | | | | Females | 36 | 29 | 8 | 3 | | 3 | 2 | | | 2 | 1 | | | | | | | | |
| Berrien | 420 | 315 | 40 | 36 | 15 | 13 | 1 | | | | Males | 10 | 162 | 116 | 46 | 33 | 15 | 9 | 6 | 4 | 7 | 3 | 1 | 4 | 2 | | | | | |
| | | | | | | | | | | | Females | 127 | 169 | 56 | 24 | 8 | 12 | 9 | 3 | 2 | 5 | 1 | 1 | 1 | 1 | 1 | | | | |
| Branch | 302 | 272 | 4 | 13 | 6 | 6 | 1 | | | | Males | 11 | 124 | 73 | 33 | 22 | 12 | 8 | 8 | 6 | 3 | 1 | | 1 | | | | | | |
| | | | | | | | | | | | Females | 100 | 123 | 35 | 14 | 12 | 3 | 9 | 3 | 4 | | | | | | | | | | |
| Calhoun | 426 | 334 | 21 | 38 | 20 | 13 | 4 | | | 1 | Males | 17 | 177 | 105 | 70 | 23 | 11 | 6 | 6 | 3 | 3 | 2 | 1 | 1 | | 1 | | | | |
| | | | | | | | | | | | Females | 111 | 200 | 52 | 29 | 12 | 9 | 4 | 3 | 1 | 2 | 1 | | 1 | | 1 | | | | |
| Cass | 188 | 162 | 2 | 11 | 5 | 8 | | | | | Males | 7 | 77 | 54 | 20 | 7 | 10 | 1 | 3 | 4 | 3 | 1 | 1 | | | | | | | |
| | | | | | | | | | | | Females | 63 | 75 | 24 | 9 | 6 | 3 | 3 | 1 | | 3 | 1 | | | | | | | | |
| Charlevoix | 83 | 55 | 5 | 13 | 8 | 1 | 1 | | | | Males | 2 | 40 | 17 | 4 | 6 | 4 | 2 | 4 | 4 | | | | | | | | | | |
| | | | | | | | | | | | Females | 32 | 32 | 7 | 3 | 2 | | 1 | 2 | 2 | 1 | 1 | | | | | | | | |
| Cheboygan | 95 | 31 | 26 | 13 | 12 | 9 | 3 | 1 | | | Males | 1 | 43 | 19 | 20 | 2 | 3 | 2 | 3 | 1 | 1 | | | | | | | | | |
| | | | | | | | | | | | Females | 37 | 44 | 3 | 4 | 5 | 3 | | | | | | | | | | | | | |
| Chippewa | 128 | 12 | 84 | 12 | 20 | | | | | | Males | | 39 | 50 | 24 | 9 | 4 | 1 | 1 | | | | | | | | | | | |
| | | | | | | | | | | | Females | 37 | 56 | 20 | 9 | 3 | 2 | 1 | 1 | | | | | | | | | | | |
| Clare | 68 | 40 | 11 | 7 | 7 | 2 | 1 | | | | Males | 7 | 26 | 16 | 8 | 4 | 3 | 2 | 1 | | 1 | | | | | | | | | |
| | | | | | | | | | | | Females | 32 | 19 | 3 | 3 | 3 | 2 | | 1 | | | | | | | | | | | |
| Clinton | 237 | 201 | 4 | 14 | 12 | 6 | | | | | Males | 5 | 99 | 63 | 29 | 16 | 9 | 4 | 2 | 1 | 3 | 4 | 1 | | 1 | | | | | |
| | | | | | | | | | | | Females | 72 | 104 | 34 | 8 | 5 | 5 | 1 | 2 | 4 | 1 | | | 1 | | | | | | |
| Crawford | 28 | 12 | 7 | 7 | 1 | 1 | | | | | Males | 1 | 11 | 7 | 3 | 3 | 1 | 1 | 1 | | | | | | | | | | | |
| | | | | | | | | | | | Females | 7 | 14 | 4 | 1 | 1 | | 1 | | | | | | | | | | | | |
| Delta | 147 | 33 | 74 | 30 | 10 | | | | | | Males | 1 | 38 | 64 | 29 | 10 | 3 | | | 1 | 1 | | | | | | | | | |
| | | | | | | | | | | | Females | 49 | 63 | 32 | 9 | 2 | | 1 | 1 | | | | | | | | | | | |

**Table 41.—CONTINUED.—*Marriages by counties, nativity and periods of age.***

| Counties. | Number of marriages, 1892. | (a) Number of marriages, by nativity, 1892. | | | | | | | | | Sex. | (b) Number of persons married, by groups of ages, 1892. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Both native-born. | Both foreign-born. | Foreign-born males, native females. | Foreign-born females, native males. | Females unknown, Males. | | Males unknown, Females. | | Both unknown. | | Under 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Both unknown. |
| | | | | | | Native. | Foreign. | Native. | Foreign. | | | | | | | | | | | | | | | | | |
| Dickinson | 147 | 14 | 108 | 22 | 3 | .... | .... | ..... | ..... | .... | Males | ..... | 54 | 56 | 25 | 4 | 5 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... |
| | | | | | | | | | | | Females | 37 | 69 | 29 | 4 | 5 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... |
| Eaton | 355 | 323 | 3 | 21 | 8 | .... | ..... | ..... | ..... | .... | Males | 8 | 156 | 86 | 40 | 22 | 9 | 10 | 9 | 3 | 5 | 3 | 3 | .... | 1 | .... |
| | | | | | | | | | | | Females | 102 | 152 | 44 | 23 | 7 | 6 | 6 | 7 | 5 | 2 | .... | 1 | .... | .... | .... |
| Emmet | 105 | 60 | 14 | 16 | 9 | 6 | ..... | ..... | ..... | .... | Males | 3 | 44 | 30 | 9 | 8 | 1 | 2 | 3 | 3 | 1 | 1 | .... | .... | .... | .... |
| | | | | | | | | | | | Females | 40 | 36 | 16 | 5 | 3 | 2 | ..... | 2 | 1 | .... | .... | .... | .... | .... | .... |
| Genesee | 367 | 274 | 17 | 38 | 27 | 8 | 3 | ..... | ..... | .... | Males | 11 | 139 | 103 | 43 | 25 | 8 | 14 | 5 | 6 | 3 | 2 | 6 | 2 | .... | .... |
| | | | | | | | | | | | Females | 106 | 155 | 50 | 19 | 10 | 8 | 7 | 2 | 4 | 4 | 2 | .... | .... | .... | .... |
| Gladwin | 43 | 24 | 7 | 3 | 6 | 1 | 1 | 1 | ..... | .... | Males | 2 | 12 | 15 | 10 | 2 | 1 | ..... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | | | | | | | | | | | Females | 23 | 14 | 3 | 1 | ..... | 1 | ..... | 1 | .... | .... | .... | .... | .... | .... | .... | .... |
| Gogebic | 236 | 19 | 189 | 15 | 10 | 1 | 2 | ..... | ..... | .... | Males | 3 | 85 | 102 | 31 | 7 | 6 | ..... | 2 | .... | .... | .... | .... | .... | .... | .... |
| | | | | | | | | | | | Females | 59 | 114 | 48 | 8 | 4 | 3 | ..... | .... | .... | .... | .... | .... | .... | .... | .... |
| Gd. Traverse | 161 | 110 | 11 | 16 | 22 | 2 | ..... | ..... | ..... | .... | Males | 3 | 66 | 47 | 26 | 9 | 4 | 3 | 1 | 2 | .... | 1 | .... | .... | .... | .... |
| | | | | | | | | | | | Females | 66 | 56 | 22 | 7 | 4 | 4 | 2 | .... | .... | .... | .... | .... | .... | .... | .... |
| Gratiot | 265 | 207 | 6 | 19 | 11 | 19 | 3 | ..... | ..... | .... | Males | 8 | 122 | 61 | 32 | 12 | 12 | 3 | 2 | 3 | 4 | 2 | 3 | 1 | .... | .... |
| | | | | | | | | | | | Females | 131 | 80 | 24 | 6 | 5 | 7 | 3 | 2 | 2 | 4 | .... | 1 | .... | .... | .... |
| Hillsdale | 315 | 260 | 3 | 15 | 3 | 31 | 1 | 2 | ..... | .... | Males | 11 | 140 | 72 | 37 | 15 | 3 | 9 | 7 | 9 | 4 | 5 | 3 | .... | .... | .... |
| | | | | | | | | | | | Females | 99 | 114 | 43 | 20 | 12 | 9 | 4 | 1 | 6 | 2 | 2 | 1 | 1 | .... | 1 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Houghton | 399 | 83 | 239 | 52 | 24 | | 1 | | | | Males | 4 | 146 | 140 | 61 | 17 | 15 | 8 | 3 | 1 | 2 | 2 | | | | |
| | | | | | | | | | | | Females | 126 | 178 | 54 | 19 | 6 | 4 | 7 | 2 | 2 | | | | | | 1 |
| Huron | 281 | 80 | 86 | 70 | 41 | 2 | 2 | | | | Males | 1 | 100 | 111 | 33 | 14 | 8 | 6 | 3 | 1 | 1 | 1 | 2 | | | |
| | | | | | | | | | | | Females | 106 | 122 | 25 | 12 | 5 | 5 | 3 | 1 | | 2 | | | | | |
| Ingham | 384 | 291 | 30 | 36 | 22 | 5 | | | | | Males | 7 | 150 | 114 | 36 | 24 | 13 | 10 | 9 | 7 | 7 | 2 | 3 | 2 | | |
| | | | | | | | | | | | Females | 102 | 158 | 51 | 22 | 16 | 12 | 10 | 8 | | 3 | 2 | | | | |
| Ionia | 339 | 284 | 10 | 26 | 15 | 3 | 1 | | | | Males | 13 | 146 | 88 | 48 | 21 | 12 | 5 | 7 | 1 | 6 | 2 | | | | |
| | | | | | | | | | | | Females | 117 | 136 | 35 | 19 | 12 | 7 | 7 | 2 | 2 | 2 | | | | | |
| Iosco | 114 | 39 | 41 | 21 | 13 | | | | | | Males | 1 | 52 | 40 | 14 | 2 | 2 | 2 | 1 | | | | | | | |
| | | | | | | | | | | | Females | 48 | 41 | 17 | 6 | | 1 | | | 1 | | | | | | |
| Iron | 47 | 6 | 31 | 6 | 3 | | 1 | | | | Males | | 14 | 21 | 9 | 2 | 1 | | | | | | | | | |
| | | | | | | | | | | | Females | 16 | 19 | 9 | 2 | 1 | | | | | | | | | | |
| Isabella | 212 | 129 | 18 | 29 | 23 | 10 | 3 | | | | Males | 4 | 92 | 63 | 20 | 9 | 7 | 9 | 3 | 1 | 3 | 1 | | | | |
| | | | | | | | | | | | Females | 99 | 72 | 16 | 8 | 9 | | 1 | 2 | 2 | 2 | 1 | | | | |
| Jackson | 440 | 353 | 25 | 40 | 20 | 1 | | | | 1 | Males | 13 | 182 | 136 | 40 | 26 | 16 | 7 | 4 | 6 | 4 | 4 | | 2 | | |
| | | | | | | | | | | | Females | 132 | 174 | 65 | 17 | 25 | 15 | 4 | 5 | 1 | 1 | 1 | | | | |
| Kalamazoo | 438 | 316 | 55 | 31 | 26 | 5 | | | | | Males | 3 | 170 | 104 | 52 | 32 | 14 | 16 | 14 | 9 | 5 | 7 | 6 | 1 | | |
| | | | | | | | | | | | Females | 97 | 168 | 70 | 35 | 21 | 17 | 14 | 4 | 1 | 5 | 1 | | | | |
| Kalkaska | 49 | 35 | 2 | 8 | 1 | 2 | 1 | | | | Males | | 19 | 18 | 4 | 4 | 1 | 1 | | | 1 | 1 | | | | |
| | | | | | | | | | | | Females | 26 | 12 | 4 | 3 | 1 | 1 | | | 1 | 1 | | | | | |
| Kent | 1,242 | 714 | 278 | 158 | 83 | 6 | 2 | 1 | | | Males | 32 | 441 | 382 | 188 | 70 | 45 | 43 | 17 | 9 | 13 | 4 | 2 | 1 | | |
| | | | | | | | | | | | Females | 329 | 526 | 189 | 81 | 37 | 34 | 23 | 10 | 5 | 7 | 1 | | | | |
| Keweenaw | 32 | 5 | 17 | 8 | 2 | | | | | | Males | 1 | 9 | 10 | 6 | 5 | 1 | | | | | | | | | |
| | | | | | | | | | | | Females | 10 | 13 | 5 | 4 | | | | | | | | | | | |
| Lake | 49 | 28 | 7 | 6 | 5 | 2 | 1 | | | | Males | 3 | 18 | 12 | 9 | 2 | 1 | 1 | 2 | 1 | | | | | | |
| | | | | | | | | | | | Females | 23 | 17 | 6 | | 1 | | 1 | | | 1 | | | | | |
| Lapeer | 287 | 170 | 28 | 63 | 25 | | 1 | | | | Males | 5 | 134 | 68 | 30 | 11 | 11 | 6 | 3 | 4 | 6 | 2 | | | 2 | |
| | | | | | | | | | | | Females | 86 | 132 | 33 | 12 | 6 | 4 | 3 | 3 | 3 | 3 | 1 | 1 | | | |

**Table 41.—CONTINUED.—*Marriages by counties, nativity and periods of age.***

| Counties. | Number of marriages, 1892. | (a) Number of marriages, by nativity, 1892. | | | | | | | | | Sex. | (b) Number of persons married, by groups of ages, 1892. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Both native-born. | Both foreign-born. | Foreign-born males, native females. | Foreign-born females, native males. | Females unknown. Males. Native. | Females unknown. Males. Foreign. | Males unknown. Females. Native. | Males unknown. Females. Foreign. | Both unknown. | | Under 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Both unknown. |
| Leelanau | 62 | 36 | 10 | 8 | 7 | | | | | 1 | Males | 1 | 14 | 25 | 10 | 3 | 4 | 2 | | 2 | | | | 1 | | |
| | | | | | | | | | | | Females | 18 | 24 | 11 | 2 | 1 | 4 | | 1 | | 1 | | | | | |
| Lenawee | 421 | 340 | 22 | 34 | 18 | 6 | 1 | | | | Males | 12 | 164 | 112 | 48 | 19 | 19 | 12 | 12 | 5 | 4 | 8 | 4 | 2 | | |
| | | | | | | | | | | | Females | 112 | 177 | 57 | 25 | 12 | 11 | 4 | 6 | 8 | 6 | 3 | | | | |
| Livingston | 183 | 146 | 2 | 15 | 13 | 7 | | | | | Males | 3 | 75 | 41 | 23 | 13 | 5 | 6 | 3 | 4 | 5 | 2 | 2 | 1 | | |
| | | | | | | | | | | | Females | 50 | 76 | 27 | 9 | 5 | 2 | 4 | 3 | 3 | 2 | 2 | | | | |
| Luce | 24 | 2 | 18 | 2 | 2 | | | | | | Males | | 5 | 10 | 6 | 1 | | 1 | | 1 | | | | | | |
| | | | | | | | | | | | Females | 10 | 8 | 1 | 3 | 1 | | | 1 | | | | | | | |
| Mackinac | 51 | 22 | 15 | 7 | 7 | | | | | | Males | 2 | 13 | 16 | 11 | 5 | 1 | 1 | 2 | | | | | | | |
| | | | | | | | | | | | Females | 18 | 20 | 4 | 6 | 1 | | | 1 | 1 | | | | | | |
| Macomb | 243 | 157 | 23 | 37 | 20 | 4 | 2 | | | | Males | 2 | 106 | 72 | 35 | 9 | 8 | 3 | 1 | 1 | 1 | 3 | 1 | 1 | | |
| | | | | | | | | | | | Females | 72 | 105 | 41 | 11 | 2 | 4 | 4 | | 1 | 1 | 1 | 1 | | | |
| Manistee | 229 | 78 | 100 | 33 | 18 | | | | | | Males | 6 | 77 | 86 | 26 | 11 | 9 | 6 | 3 | 2 | 1 | | 1 | 1 | | |
| | | | | | | | | | | | Females | 83 | 91 | 27 | 10 | 5 | 6 | 2 | 2 | 2 | | 1 | | | | |
| Manitou | 2 | 2 | | | | | | | | | Males | | | | 2 | | | | | | | | | | | |
| | | | | | | | | | | | Females | 1 | | 1 | | | | | | | | | | | | |
| Marquette | 396 | 60 | 244 | 68 | 24 | | | | | | Males | | 152 | 160 | 54 | 17 | 7 | 4 | 2 | | | | | | | |
| | | | | | | | | | | | Females | 106 | 186 | 73 | 15 | 7 | 4 | 4 | 1 | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mason | 172 | 79 | 53 | 21 | 17 | 2 | | | | | Males | 1 | 56 | 43 | 13 | 13 | 5 | 6 | 6 | 3 | 3 | 2 | 1 | | | | | |
| | | | | | | | | | | | Females | 57 | 47 | 30 | 15 | 8 | 4 | 3 | 5 | 2 | | 1 | | | | | | |
| Mecosta | 190 | 116 | 19 | 28 | 15 | 10 | 2 | | | | Males | 3 | 75 | 61 | 22 | 10 | 4 | 6 | 3 | 2 | 3 | 2 | | | | | | |
| | | | | | | | | | | | Females | 79 | 75 | 12 | 10 | 4 | | 4 | 5 | 1 | | | | | | | | |
| Menominee | 162 | 29 | 87 | 33 | 9 | 1 | 2 | | | 1 | Males | 2 | 64 | 53 | 17 | 15 | 2 | 2 | 3 | 1 | | 1 | | | | | | 2 |
| | | | | | | | | | | | Females | 54 | 69 | 23 | 6 | 5 | 1 | | | 1 | 1 | | | | | | | 2 |
| Midland | 90 | 53 | 8 | 13 | 14 | | 2 | | | | Males | 2 | 38 | 26 | 12 | 3 | 1 | 5 | 1 | 1 | 1 | | | | | | | |
| | | | | | | | | | | | Females | 46 | 28 | 6 | 2 | 4 | 4 | | | | | | | | | | | |
| Missaukee | 45 | 24 | 8 | 9 | 4 | | | | | | Males | | 17 | 15 | 9 | 1 | 2 | | | | | 1 | | | | | | |
| | | | | | | | | | | | Females | 22 | 17 | 2 | 2 | 1 | | | 1 | | | | | | | | | |
| Monroe | 327 | 273 | 11 | 26 | 9 | 8 | | | | | Males | 8 | 125 | 105 | 29 | 23 | 9 | 11 | 6 | 3 | 6 | 1 | | 1 | | | | |
| | | | | | | | | | | | Females | 111 | 115 | 49 | 28 | 9 | 5 | 4 | 4 | | 2 | | | | | | | |
| Montcalm | 277 | 191 | 20 | 32 | 21 | 10 | 2 | 1 | | | Males | 11 | 130 | 59 | 27 | 17 | 12 | 7 | 3 | 4 | 3 | 4 | | | | | | |
| | | | | | | | | | | | Females | 121 | 90 | 29 | 10 | 7 | 6 | 6 | 3 | 2 | 1 | 1 | 1 | | | | | |
| Montmorency | 13 | 1 | 7 | 2 | 2 | 1 | | | | | Males | | 3 | 4 | 6 | | | | | | | | | | | | | | |
| | | | | | | | | | | | Females | 9 | 3 | | | 1 | | | | | | | | | | | | |
| Muskegon | 331 | 161 | 92 | 54 | 21 | 2 | | | | 1 | Males | 6 | 120 | 111 | 43 | 23 | 12 | 5 | 4 | 2 | 2 | 1 | 2 | | | | | |
| | | | | | | | | | | | Females | 108 | 139 | 41 | 18 | 6 | 9 | 3 | 4 | 1 | 1 | | 1 | | | | | |
| Newaygo | 169 | 122 | 16 | 21 | 6 | 3 | 1 | | | | Males | 3 | 65 | 54 | 20 | 6 | 7 | 4 | 2 | 2 | 3 | 2 | | | 1 | | | |
| | | | | | | | | | | | Females | 71 | 61 | 18 | 6 | 1 | 3 | 3 | 2 | 3 | | | | 1 | | | | |
| Oakland | 329 | 243 | 15 | 29 | 22 | 17 | 3 | | | | Males | 2 | 123 | 110 | 31 | 21 | 8 | 10 | 4 | 6 | 6 | 3 | 3 | 2 | | | | |
| | | | | | | | | | | | Females | 91 | 140 | 46 | 16 | 7 | 9 | 4 | 7 | 4 | 3 | 1 | 1 | | | | | |
| Oceana | 115 | 88 | 6 | 7 | 10 | 3 | 1 | | | | Males | 1 | 46 | 32 | 19 | 7 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | | | | | |
| | | | | | | | | | | | Females | 50 | 38 | 9 | 7 | 2 | 3 | 3 | 2 | 1 | | | | | | | | |
| Ogemaw | 40 | 17 | 9 | 8 | 6 | | | | | | Males | | 14 | 14 | 7 | 2 | 2 | | 1 | | | | | | | | | | |
| | | | | | | | | | | | Females | 21 | 13 | 5 | | | 1 | | | | | | | | | | | |
| Ontonagon | 40 | 19 | 9 | 11 | | | 1 | | | | Males | | 16 | 16 | 4 | 3 | | 1 | | | | | | | | | | | |
| | | | | | | | | | | | Females | 12 | 20 | 3 | 3 | 1 | | | 1 | | | | | | | | | |

**Table 41.—CONCLUDED.—*Marriages by counties, nativity and periods of age.***

| Counties. | Number of marriages, 1892. | (a) Number of marriages, by nativity, 1892. | | | | | | | | | Sex. | (b) Number of persons married, by groups of ages, 1892. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Both native-born. | Both foreign-born. | Foreign-born males, native females. | Foreign-born females, native males. | Females unknown. Males. Native. | Females unknown. Males. Foreign. | Males unknown. Females. Native. | Males unknown. Females. Foreign. | Both unknown. | | Under 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Both unknown. |
| Osceola | 119 | 63 | 18 | 21 | 11 | 6 | | | | | Males | 7 | 52 | 34 | 14 | 5 | 2 | 2 | | 3 | | | | | | |
| | | | | | | | | | | | Females | 59 | 33 | 15 | 3 | 3 | 2 | 1 | 1 | 2 | | | | | | |
| Oscoda | 14 | 7 | 2 | 4 | | 1 | | | | | Males | 1 | 4 | 2 | 4 | | | | | | 2 | | 1 | | | |
| | | | | | | | | | | | Females | 8 | | 1 | 2 | 1 | | | 2 | | | | | | | |
| Otsego | 42 | 9 | 13 | 8 | 4 | 7 | 1 | | | | Males | 1 | 17 | 12 | 8 | | 2 | 2 | | | | | | | | |
| | | | | | | | | | | | Females | 16 | 18 | 2 | 2 | 4 | | | | | | | | | | |
| Ottawa | 280 | 166 | 39 | 48 | 14 | 10 | 1 | 2 | | | Males | 7 | 103 | 85 | 42 | 17 | 9 | 3 | 4 | 3 | 1 | 4 | 2 | | | |
| | | | | | | | | | | | Females | 87 | 115 | 41 | 11 | 8 | 5 | 5 | 3 | 4 | | | | | | 1 |
| Presque Isle | 28 | 10 | 9 | 6 | 3 | | | | | | Males | | 15 | 7 | 3 | 1 | 1 | | | 1 | | | | | | |
| | | | | | | | | | | | Females | 14 | 9 | 1 | 2 | 2 | | | | | | | | | | |
| Roscommon | 9 | 6 | 1 | 1 | 1 | | | | | | Males | | 4 | 3 | | | | 1 | | | 1 | | | | | |
| | | | | | | | | | | | Females | 4 | 2 | 1 | | 1 | | | 1 | | | | | | | |
| Saginaw | 727 | 323 | 140 | 145 | 90 | 16 | 8 | 4 | 1 | | Males | 9 | 264 | 224 | 111 | 44 | 26 | 17 | 11 | 9 | 5 | 6 | | 1 | | |
| | | | | | | | | | | | Females | 203 | 313 | 104 | 46 | 25 | 15 | 6 | 3 | 4 | 4 | 3 | | | | 1 |
| Sanilac | 277 | 75 | 78 | 74 | 44 | 3 | 2 | | 1 | | Males | 2 | 99 | 90 | 42 | 12 | 10 | 2 | 7 | 5 | 3 | 5 | | | | |
| | | | | | | | | | | | Females | 90 | 125 | 34 | 9 | 6 | 5 | 3 | 3 | | 1 | | 1 | | | |
| Schoolcraft | 82 | 15 | 45 | 13 | 6 | 2 | 1 | | | | Males | | 27 | 33 | 15 | 4 | 3 | | | | | | | | | |
| | | | | | | | | | | | Females | 25 | 36 | 14 | 6 | 1 | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shiawassee | 367 | 277 | 21 | 87 | 15 | 7 | ...... | ...... | ...... | .... | Males | 13 | 145 | 98 | 38 | 22 | 13 | 9 | 9 | 6 | 6 | 1 | 2 | .... | .... | -- |
| | | | | | | | | | | | Females | 136 | 121 | 49 | 17 | 22 | 6 | 6 | 4 | 3 | 1 | .... | .... | .... | 1 | 1 |
| St. Clair | 502 | 202 | 117 | 102 | 67 | 7 | 6 | ...... | ...... | 1 | Males | 3 | 192 | 149 | 71 | 36 | 17 | 12 | 7 | 6 | 3 | 5 | .... | .... | 1 | -- |
| | | | | | | | | | | | Females | 123 | 224 | 88 | 32 | 11 | 7 | 6 | 7 | 1 | 2 | 1 | .... | .... | .... | -- |
| St. Joseph | 211 | 183 | 7 | 14 | 7 | ...... | ...... | ...... | ...... | .... | Males | 2 | 82 | 63 | 24 | 14 | 6 | 7 | 5 | 2 | 5 | 1 | .... | .... | .... | -- |
| | | | | | | | | | | | Females | 69 | 75 | 38 | 15 | 8 | 4 | 1 | 3 | 1 | 2 | .... | .... | .... | .... | -- |
| Tuscola | 248 | 150 | 23 | 44 | 29 | 2 | ...... | ...... | ...... | .... | Males | 13 | 94 | 70 | 31 | 9 | 8 | 5 | 6 | 6 | 3 | 1 | 2 | .... | .... | -- |
| | | | | | | | | | | | Females | 99 | 97 | 20 | 10 | 3 | 6 | 3 | 6 | 2 | 1 | 1 | .... | .... | .... | -- |
| Van Buren | 278 | 240 | 2 | 14 | 4 | 12 | 1 | ...... | ...... | .... | Males | 10 | 115 | 69 | 25 | 17 | 8 | 5 | 6 | 5 | 1 | 6 | 3 | 2 | 1 | -- |
| | | | | | | | | | | | Females | 107 | 92 | 32 | 8 | 9 | 6 | 7 | 4 | 6 | 1 | 1 | .... | .... | .... | -- |
| Washtenaw | 362 | 258 | 26 | 44 | 23 | 9 | 1 | 1 | ...... | .... | Males | 4 | 124 | 145 | 41 | 18 | 13 | 5 | 5 | 1 | 1 | 3 | 2 | .... | .... | -- |
| | | | | | | | | | | | Females | 64 | 178 | 83 | 19 | 11 | 5 | 4 | 1 | 1 | .... | .... | 1 | .... | .... | -- |
| Wayne | 2,540 | 921 | 915 | 376 | 297 | 16 | 15 | ...... | ...... | .... | Males | 16 | 914 | 933 | 327 | 180 | 77 | 64 | 34 | 15 | 12 | 11 | 4 | 2 | .... | 1 |
| | | | | | | | | | | | Females | 551 | 1,204 | 473 | 135 | 74 | 44 | 29 | 14 | 9 | 3 | 3 | .... | .... | .... | 1 |
| Wexford | 135 | 72 | 28 | 18 | 12 | 4 | 1 | ...... | ...... | .... | Males | 2 | 50 | 46 | 14 | 9 | 4 | 1 | 3 | 3 | 2 | 1 | .... | .... | .... | -- |
| | | | | | | | | | | | Females | 57 | 41 | 21 | 3 | 2 | 5 | 2 | 1 | 2 | .... | 1 | .... | .... | .... | -- |

13

Table 42 shows some interesting facts in regard to the number of marriages at different periods of age of the contracting parties. Beginning with the left upper corner of the body of the table, and reading down the vertical columns, we see that 324 females under 20 years of age married males under 20; 3,615 females under 20 married males aged from 20 to 25 years, etc. The total number of females married under 20 years of age was 6,223, which number was 30.9 per cent of all females married. The corresponding facts in regard to males of each age may be noted by reading the horizontal lines of the table. The largest number of marriages took place between males aged from 20 to 25 and females of the same period of age. The next largest group is that of males aged 20 to 25 and females aged less than 20 years. From these groups the numbers become less, gradually for males, more abruptly for females, with advancing years.

**Table 42.**—*Exhibiting the number of each sex, at each period of age, married during the year 1892, and the per cent of brides and bridegrooms at each period of age to total of all age.*

| Ages of males, 1892. | Ages of females, 1892. | | | | | | | | | | | | | | Total males. | Per cent of grooms at each age. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Under 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. | | |
| Under 20 | 324 | 51 | 5 | ..... | ..... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 380 | 1.9 |
| 20 to 25 | 3,615 | 3,705 | 358 | 46 | 12 | 1 | .... | .... | 1 | 1 | .... | .... | .... | .... | 2 | 7,741 | 38.5 |
| 25 to 30 | 1,689 | 3,050 | 1,274 | 158 | 38 | 4 | 3 | .... | .... | .... | .... | .... | .... | .... | 2 | 6,218 | 30.9 |
| 30 to 35 | 423 | 1,001 | 692 | 351 | 78 | 12 | 5 | 2 | .... | .... | .... | .... | .... | .... | .... | 2,564 | 12.8 |
| 35 to 40 | 107 | 301 | 278 | 234 | 144 | 58 | 13 | 2 | 1 | .... | .... | .... | .... | .... | 2 | 1,140 | 5.7 |
| 40 to 45 | 30 | 104 | 127 | 122 | 118 | 102 | 33 | 2 | 2 | .... | .... | .... | .... | .... | .... | 640 | 3.2 |
| 45 to 50 | 21 | 38 | 65 | 73 | 97 | 80 | 58 | 17 | 8 | .... | 1 | .... | .... | .... | 1 | 459 | 2.3 |
| 50 to 55 | 7 | 21 | 27 | 44 | 47 | 63 | 49 | 38 | 12 | 6 | 3 | .... | .... | .... | .... | 317 | 1.6 |
| 55 to 60 | 1 | 4 | 13 | 11 | 24 | 31 | 45 | 45 | 25 | 8 | 2 | 1 | .... | .... | .... | 210 | 1.0 |
| 60 to 65 | 1 | 2 | 2 | 6 | 11 | 16 | 39 | 41 | 23 | 35 | 8 | 1 | 1 | .... | .... | 186 | .9 |
| 65 to 70 | 2 | ..... | ..... | 2 | 8 | 15 | 19 | 26 | 24 | 21 | 12 | 2 | 1 | 1 | .... | 133 | .7 |
| 70 to 75 | ..... | ..... | ..... | .... | 1 | 9 | 3 | 12 | 15 | 17 | 10 | 5 | .... | .... | .... | 72 | .4 |
| 75 to 80 | 2 | ..... | ..... | 2 | 1 | 2 | 3 | 2 | 7 | 3 | 5 | 2 | 1 | .... | .... | 30 | .1 |
| 80 and over | ..... | ..... | ..... | ..... | 1 | 1 | .... | .... | 1 | 3 | .... | 2 | 2 | 1 | .... | 11 | ..... |
| Unknown | 1 | ..... | ..... | ..... | ..... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 5 | 6 | .... |
| Total females | 6,223 | 8,277 | 2,841 | 1,049 | 580 | 394 | 270 | 187 | 119 | 94 | 41 | 13 | 5 | 2 | 12 | 20,107 | ..... |
| Per cent of brides at each age | 30.9 | 41.2 | 14.1 | 5.2 | 2.9 | 2.0 | 1.3 | .9 | .6 | .5 | .2 | .1 | .... | .... | .1 | ..... | 100.0 |

MARRIAGES UNDER LEGAL AGE IN MICHIGAN, 1892.

In twelve instances the ages of persons married were returned as being below the limit that the law establishes, namely, eighteen years for males and sixteen years for females. One of these cases was that of a male aged seventeen years reported from

Washtenaw county. The remainder were all females—one of fourteen years from Iosco county, and ten of fifteen years, as follows: Bay, 1; Gladwin. 1; Huron, 2; Iosco, 1; Jackson, 1; Mackinac, 1; Oakland, 1; Schoolcraft, 1; Wayne, 1. With two exceptions—those from Jackson and Wayne counties—all were of native birth. For the purpose of comparison the number of persons married below legal age for each year of the preceding decennium is presented:—

**Table 43.**—*Persons married in Michigan under the legal ages, 1883-92.*

| Year. | Sex. | Total. | Ages. | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 12 | 13 | 14 | 15 | 16 | 17 |
| 1883 | Males | 7 | ..... | ..... | ..... | ..... | 1 | 6 |
| | Females | 135 | ..... | 5 | 28 | 102 | ..... | ..... |
| 1884 | Males | 6 | ..... | ..... | ..... | ..... | 1 | 5 |
| | Females | 123 | ..... | 5 | 20 | 98 | ..... | ..... |
| 1885 | Males | 8 | ..... | ..... | ..... | 1 | 2 | 5 |
| | Females | 147 | 1 | 4 | 21 | 121 | ..... | ..... |
| 1886 | Males | 7 | ..... | ..... | ..... | ..... | 1 | 6 |
| | Females | 126 | 1 | 3 | 21 | 101 | ..... | ..... |
| 1887 | Males | 6 | ..... | ..... | ..... | ..... | 1 | 5 |
| | Females | 97 | ..... | 2 | 19 | 76 | ..... | ..... |
| 1888* | Females | 26 | ..... | ..... | 5 | 21 | ..... | ..... |
| 1889* | Females | 19 | 1 | ..... | ..... | 18 | ..... | ..... |
| 1890* | Females | 12 | ..... | ..... | 2 | 10 | ..... | ..... |
| 1891 | Males | 2 | ..... | ..... | ..... | ..... | 1 | 1 |
| | Females | 10 | ..... | 1 | ..... | 9 | ..... | ..... |
| 1892 | Males | 1 | ..... | ..... | ..... | ..... | ..... | 1 |
| | Females | 11 | ..... | ..... | 1 | 10 | ..... | ..... |
| Total, ten years, 1883-92 | Males | 37 | ..... | ..... | ..... | 1 | 7 | 29 |
| | Females | 706 | 3 | 20 | 117 | 566 | ..... | ..... |

* No males were reported to have been married under the legal age in these years.

While many facts of interest may be derived from an examination of Table 42, which contains the results of a single year, the general condition of marriages in this State, so far as the age-relations of the contracting parties is concerned, may be better studied in Tables 44 and 45, following, in which the percentages of males and females married at each period of age in the year 1892 are compared with the preceding year and with five-year averages showing in condensed form the experience of the twenty years, 1871-90.

Table 44 shows a slight rise in the percentage of males married under 20 years of age in 1892 as compared with 1891, but for both years this rate is below that of any preceding five-pear period. A rise may be noted in the number of males married at the age periods 20-25 and 25-30 in both years as compared with the period 1886-90, though all earlier periods are above the present rate. The proportions of males married at more advanced periods of age show little change in the entire period of twenty-two years represented in the table.

**Table 44.**—*Ages of males married in Michigan, by periods of years, for the years 1891 and 1892; compared with averages for the quinquennial periods, 1871–75, 1876–80, 1881–85, 1886–90.*

| Years and periods averaged. | Ages of males, by periods of years, married 1871-92. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Under 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | Over 80. | Unknown. |
| Average, 1871-75 | 2.6 | 41.2 | 29.5 | 10.6 | 5.5 | 3.3 | 2.3 | 1.7 | 1.0 | .8 | .5 | .3 | .1 | .... | .6 |
| Average, 1876-80 | 2.6 | 40.8 | 29.8 | 10.8 | 5.6 | 3.2 | 2.2 | 1.6 | 1.1 | .8 | .5 | .3 | .1 | .... | .5 |
| Average, 1881-85 | 2.3 | 39.5 | 30.7 | 11.4 | 5.7 | 3.2 | 2.2 | 1.6 | 1.0 | .9 | .5 | .3 | .1 | .... | .4 |
| Average, 1886-90 | 2.1 | 37.7 | 32.4 | 12.2 | 5.7 | 3.0 | 2.4 | 1.5 | 1.1 | .8 | .6 | .3 | .1 | .... | .1 |
| Year 1891 | 1.7 | 38.9 | 31.3 | 12.4 | 5.5 | 3.2 | 2.3 | 1.6 | 1.2 | .7 | .6 | .3 | .1 | .... | .... |
| Year 1892 | 1.9 | 38.5 | 30.9 | 12.8 | 5.7 | 3.2 | 2.3 | 1.6 | 1.0 | .9 | .7 | .4 | .1 | .... | .... |

Table 45, representing analogous facts with respect to the marriage-ages of females, shows no features of especial importance in 1892. The percentage of those married under 20 years of age is less than in 1891, or in any preceding five-year period. The percentage of females aged 20–25 years at marriage is somewhat less than it was in 1891, but is greater than that recorded for any preceding quinquennium.

**Table 45.**—*Ages of females married in Michigan, by periods of years, for the years 1891 and 1892; compared with averages for the quinquennial periods 1871–75, 1876–80, 1881–85, 1886–90.*

| Years and periods averaged. | Ages of females, by periods of years, married 1871-92. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Under 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Average, 1871-75 | 36.9 | 36.5 | 12.7 | 5.0 | 3.0 | 2.0 | 1.3 | .8 | .5 | .3 | .2 | .... | .... | .... | .9 |
| Average, 1876-80 | 37.4 | 37.4 | 11.7 | 4.7 | 3.1 | 1.9 | 1.3 | .8 | .5 | .3 | .2 | .... | .... | .... | .7 |
| Average, 1881-85 | 33.8 | 38.7 | 13.7 | 4.9 | 3.1 | 1.9 | 1.3 | .8 | .5 | .3 | .2 | .1 | .... | .... | .6 |
| Average, 1886-90 | 32.8 | 39.5 | 14.2 | 5.2 | 2.9 | 1.9 | 1.3 | .9 | .6 | .4 | .2 | .1 | .... | .... | .2 |
| Year 1891 | 31.0 | 41.7 | 13.6 | 5.3 | 2.8 | 1.9 | 1.3 | 1.0 | .6 | .4 | .2 | .1 | .... | .... | .1 |
| Year 1892 | 30.9 | 41.2 | 14.1 | 5.2 | 2.9 | 2.0 | 1.3 | .9 | .6 | .5 | .2 | .1 | .... | .... | .1 |

It is probable that the average age at marriage is increasing in this State with the passage of every year, and that this is true, in somewhat different degree, for both sexes. The change is so slight, however, from year to year that comparisons extending over a considerable period of time are necessary to show the fact clearly. For this reason the averages of quinquennial periods are more useful than the statements for the individual years of the series, which are accordingly omitted in this report. They may be found in full in that for the year 1891, and will be republished in that for the year of the approaching State census, 1894.

The changes in marriage-ages alluded to above are significant, undoubtedly, of

important changes in the conditions of social life in this State. They are in perfect harmony with the conclusions drawn by Dr. Cyrus Edson, Health Commissioner of the city of New York, from a study of the increase in the age at marriage in that city. Dr. Edson's article ("The Evils of Early Marriages," *North American Review*, February, 1894), emphasizes the necessity of preparation for the ordeal of child-bearing on the part of nature and the accumulation of reserve strength for that purpose between the ages of seventeen and the time when the first child is born. "The pressure of American life, · · · the drive, the bustle, the ever-anxious effort to keep up with the procession," are cited as reasons why, with American girls, a longer period of physiological preparation is necessary than is the case in a less exacting, less emotional life. He concludes:—

"We have, then, in this country as factors in the problem of early marriages, a problem which is taxing some of the wisest brains across the water: First, the overwork put on the girls during their years in school; second, the fact that they are free to marry or not, as they see fit. This latter follows on the two facts: That they are at liberty to support themselves, and that there is no stigma on them if they remain single. If we place these two factors in conjunction with that instinct of self-preservation which nature implants in all of us, we should expect to find early marriages among American women not to be the rule."

A paper by Dr. Körösi, the eminent vital statistician of Buda-Pesth, is quoted to the same effect:—

"He showed, from a comparison of several thousand cases, that the proportion of deaths among children from weakly constitutions or maladies traceable to the mother, was twice as large among the children of mothers under twenty as among the children of mothers over thirty. Investigation also showed that the healthiest offspring was born of mothers between twenty and thirty, united to husbands between thirty and forty; when either husband or wife was under twenty, the offspring generally proved weakly, this being the case even in Hungary where the girls become women at the age of thirteen. In that country, too, fifteen per cent of the number of marriages shows the brides to be under twenty years of age, and in England twelve per cent."

## NEED OF REGISTRATION OF DIVORCES IN MICHIGAN.

The State of Michigan makes no provision by law for the collection of statistics in regard to the divorces annually granted. As a part of the general subject of vital statistics, and especially as affecting the conclusions derived from the study of the returns of marriages and births, such data would be of great value. In Part I (Table 2, p. 7), may be found a statement of the number of divorces granted in this State for each of the years 1867 to 1886, inclusive, as obtained by an investigation made several years ago under the direction of Hon. Carroll D. Wright, United States Commissioner of Labor. The numbers of divorces granted are large absolutely for each year, and the ratios of divorces to marriages have been steadily increasing. What may be called the net increase of marriages, i. e., the excess of marriages over divorces for each year, should be taken rather than the number of marriages returned in making comparisons of marriage- and birth-rates. As Dr. Bryce, Deputy Registrar-General of Ontario, has pointed out,* the re-marriage of divorced persons in Michigan and other States with similar laws relating to divorce, unduly increases their marriage-rates as compared with those of countries having more stringent divorce laws.

The laws relating to the solemnization of marriages and the collection of marriage statistics are given in the Appendix.

*"In all Canada there were only four divorces in 1891 and five in 1892. It is manifest for reasons attaching to the causes of divorce, that a notable influence is produced thereby upon the marriage-rate. Thus, of the 954 persons divorced in 1890 in Connecticut, 350, or more than one-third of the whole, married again within the year [rather there were 350 divorced persons married in the same year]. This means that over three per cent must be substracted from the marriage-rate in this and other States with similar divorce laws, in order to make a correct comparison between the marriage-rates of these States and Ontario, where the number of divorces granted in 1891-92 was nine."—*Ontario Registration Report*, 1892, p. 4.

# PART IV.—DEATHS IN MICHIGAN DURING THE YEAR 1892.

The subject of mortality has generally been considered the most valuable part of a registration report. The knowledge of the absolute and relative importance and conditions of prevalence of the diseases which principally constitute the causes of death in Michigan can be regarded as secondary only to the knowledge of the means to be employed for their prevention and restriction. Such statistical study of deaths, and, so far as possible, an exhibition of the conditions and causes affecting their number in this and preceding years, it is the object of this portion of the report to present.

The study of diseases in themselves, except only as affecting the death-rate, does not come within its scope. The seal of the State Board of Health justly pictures Vital Statistics as the keystone of the arch upon which the structure typifying the public health is supported. The correctness and completeness of its data are essential to advancement in Sanitary Science and State Medicine, not less for suggesting directions in which sanitary work is needed than for verifying and confirming the results of such work when performed. Nevertheless, with the practical application of any deductions which may be drawn from the statistical study of diseases as causes of death, this report is not particularly concerned. The organized effort of the State government for the prevention and restriction of disease is properly made through the State Board of Health, which was formed for that especial purpose, and which is required by law "to especially study the vital statistics of this State, and to endeavor to make intelligent and profitable use of the collected records of deaths and of sickness among the people." This important object of the State registration of deaths has been borne in mind in the preparation of the following tables, and no effort has been spared to render them as fully reliable, and to arrange them in as convenient and readily accessible form for this purpose, as the data provided by the present registration law of this State will permit.

It is not less the duty of the compiler of a registration report to point out the inaccuracy and imperfections of the methods of collection of the data upon which his report is based, than to study the actual results of that registration. For some purposes of statistical investigation, it is not necessary that the registration of deaths be complete, if only a sufficient number of deaths of fairly representative character be reported. The conclusions as to average age at death, relative death-rates at different age-periods, proportion of native-born to foreign-born decedents, relative importance of different diseases and the *variations* in the mortality reported from all causes and from specific causes of death in successive years, are probably nearly the same as a complete regis-

tration would indicate. The percentage distribution of mortality in the geographical divisions of the State, as compared with total deaths, is perhaps reliable, but the absolute death-rates per 1,000 population for the State, counties and geographical divisions, are entirely untrustworthy.

In Part I (pp. 3–4), some reasons are stated for supposing that a large number of the deaths that actually occur in Michigan are omitted at the time of the annual enumeration by the supervisors in May, and it is believed that a conservative estimate of the omissions would increase the reported number of deaths by fully 60 per cent. Instead of 21,729 as returned, we should have at least 34,766, and the death-rate would be 15.9 per 1,000 population instead of 9.9 per 1,000. There is no reason for supposing that the percentage of omissions of deaths under the present registration system changes materially from year to year; for this reason the former system of "correction of the returns" employed in these reports from 1870 to 1890, is discontinued, as in practice it produced a very variable amount of "correction" depending upon the accidental relations of the recorded deaths for December and January in successive years. Thus for the year 1892, taking an extreme case since the deaths recorded for January of this year exceed the number recorded for any other month—something that has never occurred previously in the history of the State registration—we should make a correction under this system of only 8.11 per cent (adding 1,762 deaths or increasing the death-rate to 10.7 per 1,000). For a similar reason, the correction applied in 1890 was absurdly low, an unusually high mortality having resulted from influenza in January of that year.

Besides the failure of the present returns to afford accurate death-rates, it should be remembered that the distribution of the deaths returned through the months of the year is very largely affected by the proximity to the time of enumeration. For this reason any minute study of the mortality of the different months and seasons, as related to meteorological conditions, becomes futile.

So far as possible in the discussion of the following tables, an effort has been made to point out in what way and to what extent the data presented are unreliable. In this report, as in the preceding one, great stress has been placed upon the importance of reducing all statements of mortality to death-rates based upon population,—the only recognized standard of comparison in vital statistics,—but it has been uniformly pointed out that the rates so obtained were far below the true death-rates of the State, and so only valuable for comparison with other rates in the same series, which may be presumed to be deficient in about the same degree, and for study of the *fluctuations*, which probably closely follow, on a reduced scale, the fluctuations of the true death-rate. The introduction of estimated populations for inter-census years in the last report, as customary in all leading vital statistics publications, made such comparative study of the death-rates in Michigan for successive years of registration possible for the first time, and in the present report such study has been extended to include comparison of the mortality at certain representative age-periods (see Table 50).

Under causes of death, the old statistical classification of deaths has been relegated to a secondary position, and a brief, clear statement of the deaths registered from the most important definite causes takes its place. It had become a nuisance to attempt to refer to the registration reports in order to ascertain the number of deaths from any specific cause in any year, for the statements differed in different tables (notably the "Alphabetical List" and the "Classified List"), for the same titles, owing to the fact

that more or less "consolidation" took place in their preparation.* **In the present report, the same name means the same disease in every case, unless especially indicated,** and the new tables show as nearly as possible the exact number of deaths returned under the titles included. In order that comparison might be conveniently made with previous years, much labor has been necessary in preparing from the old reports tables of the same form whose terms shall be perfectly comparable in their inclusion of diseases.

We do not possess at present a satisfactory statistical classification of causes of death. In these reports hitherto the final results of registration have been stated in a table substantially the same as Dr. Farr's early arrangement used in the Registrar-General's Reports (England) prior to 1881. This classification has been subjected to revision several times, and its present form is quite different from the old one employed in these reports. Committees from the Royal College of Physicians of England and from the International Medical Congress are now engaged in preparing a classification more in accordance with the present state of medical knowledge, and it will be very desirable that the results of their labors, when completed, be utilized in these reports,—especially if the passage of an improved registration law shall furnish mortality statistics for this State more worthy of classification and study than those at present obtained. In the meantime it has seemed preferable to confine our attention chiefly to the leading causes of death of a definite character, which may be presumed to be returned with a fair degree of accuracy from year to year, leaving the obscure and indefinite returns, and also those of slight numerical importance, in the background.

This portion of the report may be conveniently divided into two sections:—(1) the *occurrence of deaths*, as affected by the different seasons of the year, the sex, age, color and nativity of decedents; and (2) the *causes and conditions of deaths*. It should not be understood that the second division fails to study the factors mentioned in the preceding group, but its distinctive feature is that it classifies them with reference to particular diseases instead of simply showing their relation to total mortality. The death-rate of Michigan for the year as compared with previous years of registration, and with the rates of other States; the rates of the several counties and geographical divisions of the State; and the meteorological conditions of the year are also included in Section II.

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## SECTION I.—OCCURRENCE OF DEATHS IN MICHIGAN DURING THE YEAR 1892.

The tables in this section contain statements in regard to the occurrence of deaths in the State during the year 1892, arranged to show the following particulars:—(1) deaths by months and quarters; (2) number and proportion of each sex among the decedents; (3) deaths by ages of decedents; (4) color and race; (5) nativity. Death-rates for the State and counties are discussed under Section II, in connection with Causes of Death. Herewith is presented a brief statement of the more prominent facts contained in this section:—

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* As an example, see the Registration Report for 1879, which is probably a fair representative of the average practice. The total deaths from certain diseases as stated on different pages of this Report are as follows:—*Typhoid fever*, 402 (p. 166); 397 (p. 211); *Remittent fever*, 123 (p. 166); 4, (p. 210); *Rheumatism*, 36 (p. 166); 46 (p. 230); *Consumption*, 1,702 (p. 167); 1,680 (p. 204); "*Brain disease*," 292 (p. 168); 158 (p. 200). Similar discrepancies occur in many other cases, and cannot but be puzzling and annoying to any one consulting these reports. Except for the first few years of registration, no note or explanation is given in explanation of these changes, and to a person unfamiliar with Dr. Farr's "Tabular and Supplemental List," as employed in the Massachusetts and Rhode Island Registration Reports, and to which most of these "consolidations" conform, the meaning of these different statements must seem inexplicable. This subject will be further discussed in the text relating directly to the tables of causes of death.

SUMMARY OF THE REGISTRATION OF DEATHS FOR THE YEAR 1892.*

| | |
|---|---|
| **Total number of deaths returned,** | **21,729** |
| **Death-rate per 1,000 estimated population,** | **9.9** |
| **(Actual number of deaths that occurred, estimated at** | **34,766** |
| **Actual death-rate per 1,000, estimated at** | **15.9)** |
| **Decrease of deaths returned for 1892 (21,729) from the number returned for 1891 (22,079),** | **350** |

In the above statement of deaths, still-births are included to the number of 1,014. Excluding these, as is customary in most mortality reports, we have:—

| | |
|---|---|
| **Total number of deaths, still-births excluded,** | **20,715** |
| **Death-rate, still-births excluded,** | **9.5** |

Of the 21,729 deaths in 1892, there were:—

| | |
|---|---|
| **Males,** | **11,837** |
| **Females,** | **9,809** |
| **Sex unknown or unspecified (48 of these still-births)** | **83** |

With respect to age at death, there were, of the 20,290 deaths at specified ages, exclusive of still-births:—

| | |
|---|---|
| **Deaths of infants under 1 year of age,** | **4,090 or 20.2 per cent.** |
| **Death-rate of infants under 1 year per 1,000 estimated population of same age,** | **81.4** |
| **Deaths of children under 5 years of age,** | **6,281 or 31.0 per cent.** |
| **Death-rate of children under 5 years per 1,000 estimated population of same age,** | **25.8** |
| **Deaths of children under 1 year of age per 1,000 living births,** | **90.5** |

The average age at death, according to the returns for 1892, and exclusive of still-births, was as follows:—

| | |
|---|---|
| **Both sexes and all nativities,** | **33.7 years.** |
| **Males,** | **34.1 "** |
| **Females,** | **33.3 "** |
| **Native-born (persons),** | **26.5 "** |
| **Foreign-born (persons)** | **52.6 "** |

Classifying the decedents by color and race, there were:—

| | |
|---|---|
| **White,** | **21,395** |
| **Colored (black, 137; mulatto, 49; Indian, 93),** | **279** |
| **Color unknown or unspecified,** | **55** |

By nativity, there were, including still-births:—

| | |
|---|---|
| **Native-born decedents,** | **15,683** |
| **Foreign-born decedents,** | **4,915** |
| **Nativity unknown or unspecified,** | **1,131** |

The contents and general arrangement of the tables in Section I may be seen in the following synopsis:—

* See also summary at beginning of Section II relating especially to Causes of Death registered for 1892.

*Synopsis of tables relating to occurrence of deaths by months, sex, age, color and nativity of decedents.*

| Table. | Deaths in Michigan 1892. |
|---|---|
| 46. | Number of deaths returned in Michigan for 1892, by quarters, compared with the years 1890, 1891, and with the average for ten years, 1882-91. |
| 47. | Number of deaths returned in Michigan for 1892, by months, greatest first, compared with the years 1890, 1891, and with the average for ten years, 1882-91. |
| 48. | Deaths in Michigan by sex, for each of the years 1880-92, inclusive, with death-rates per 1,000 population of same sex, and ratios of deaths of males to deaths of females. |
| 49. | Deaths in Michigan, by sex and periods of age, returned for the year 1892. |
| 50. | Population, deaths, death-rates per 1,000 population and per cents of deaths at certain specified ages, for each of the years 1870-92, inclusive; also ratio of deaths under one year of age to total living births for each year. |
| 51. | Comparison of populations at certain specified periods of age as stated by the United States and State censuses from 1870 to 1890. |
| 52. | Per cents of increase of the population at certain specified periods of age through decennial periods, according to United States and State censuses. |
| 53. | Deaths, by months, at certain periods of age, showing the relations of the deaths in each month and age-period to total deaths during the year for the corresponding months and age-periods. |
| 54. | Statement, by counties, of the number of deaths returned in Michigan for the year 1892, specifying sex, months and periods of age of decedents. |
| 55. | Statement, by sex, months and ages in periods of years, of the number of deaths returned in Michigan for the year 1892. |
| 56. | Statement, by sex, months and ages in years (in months for those aged less than one year), of the number of deaths returned in Michigan for the year 1892. |
| 57. | The average age of decedents in Michigan, by nativity, for the year 1892, and comparison with the years 1890-91, and the average for ten years, 1882-91. |
| | *Infant mortality, 1892.* |
| 58. | Number of still-births returned for 1892, and per cent of total deaths; comparison with the years 1890-91, and with the average for ten years, 1882-91. |
| 59. | Number of infants dying under one year of age in 1892; showing the number dying at each age, in months, for each month of the year; also the months of birth of such children in 1891 and 1892. |
| 60. | Comparison, by sex and months, of the number of deaths of infants born in 1891 and dying in 1891 and 1892 aged less than one year, with the total number of births in 1891. |
| 61. | Comparison, by months, of the number of births in 1891, and of the deaths of the children born in 1891 who died in 1891 and 1892 aged less than one year; showing the total number dying at each age in months, and the ratios of deaths in month of birth to deaths in year of birth and to total births. |
| 62. | Comparison, by sex and months, of the deaths of infants aged under one month to the number of births returned, 1892. |
| 63. | Statement, by counties, of the number of deaths returned in Michigan for the year 1892, specifying sex and color or race. |
| 64. | Number and percentage of deaths of each nativity in 1892, compared with 1890-91, and with the average for ten years, 1882-91. |
| 65. | Statement, by counties, of the number of deaths returned in Michigan for the year 1892, specifying sex and nativity. |
| 66. | Population (estimated), deaths and death-rates per 1,000 population, by periods of age, for each nativity, 1892. |
| 67. | List of townships reporting that no deaths occurred in 1892, showing population in 1890. |
| 68. | List of townships making no returns of deaths for 1892, showing population in 1890. |

**Table 46.**—*Deaths in Michigan by quarters of the year, exhibiting the number and per cent of totals, as returned for the years 1890–92, and comparison with the average for ten years, 1882–91.* (*Still-births included.*)

| Year and quarters. | 1890. | | 1891. | | 1892. | | Average for 10 years, 1882-91. | |
|---|---|---|---|---|---|---|---|---|
| | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. |
| Year | 21,642 | 100.0 | 22,079 | 100.0 | 21,729 | 100.0 | 19,150 | 100.0 |
| Quarter ending March 31 | 5,119 | 23.7 | 4,645 | 21.0 | 5,573 | 25.6 | 4,126 | 21.5 |
| Quarter ending June 30 | 5,145 | 23.8 | 5,366 | 24.3 | 5,060 | 23.3 | 4,515 | 23.6 |
| Quarter ending September 30 | 5,773 | 26.7 | 5,798 | 26.3 | 5,422 | 25.0 | 5,325 | 27.8 |
| Quarter ending December 31 | 5,574 | 25.8 | 6,222 | 28.2 | 5,629 | 25.9 | 5,127 | 26.8 |
| Unknown month | 31 | .1 | 48 | .2 | 45 | .2 | 57 | .3 |
| Average* | 5,411 | 25.0 | 5,520 | 25.0 | 5,432 | 25.0 | 4,788 | 25.0 |

* Average includes deaths in unknown month.

**Table 47.**—*Exhibiting, by months, the number and per cent of deaths returned for the years 1890–92, and the average for ten years 1882–91, the months in order of greatest first.* (*Still-births included*).

| Order. | 1890. | | | 1891. | | | 1892. | | | Average for 10 years, 1882-91. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Months. | Number. | Per cent of total. | Months. | Number. | Per cent of total. | Months. | Number. | Per cent of total. | Months. | Number. | Per cent of total. |
| | Year | 21,642 | 100.0 | Year | 22,079 | 100.0 | Year | 21,729 | 100.0 | Year | 19,150 | 100.0 |
| 1 | Aug. | 2,032 | 9.4 | Dec. | 2,351 | 10.6 | Jan. | 2,152 | 9.9 | Aug. | 1,901 | 9.9 |
| 2 | Dec. | 2,027 | 9.4 | Aug. | 2,147 | 9.7 | Dec. | 1,949 | 9.0 | Dec. | 1,827 | 9.5 |
| 3 | Sept. | 1,892 | 8.7 | April | 2,074 | 9.4 | Aug. | 1,942 | 8.9 | Sept. | 1,837 | 9.5 |
| 4 | July | 1,849 | 8.5 | Oct. | 2,011 | 9.1 | Oct. | 1,892 | 8.7 | Oct. | 1,716 | 9.0 |
| 5 | Oct. | 1,808 | 8.4 | Sept. | 1,973 | 8.9 | April | 1,879 | 8.6 | April | 1,604 | 8.4 |
| 6 | April | 1,808 | 8.4 | Nov. | 1,860 | 8.5 | Sept. | 1,802 | 8.3 | July | 1,598 | 8.3 |
| 7 | Mar. | 1,775 | 8.2 | Mar. | 1,774 | 8.0 | Nov. | 1,788 | 8.2 | Nov. | 1,583 | 8.3 |
| 8 | Jan. | 1,745 | 8.1 | May | 1,732 | 7.8 | Mar. | 1,734 | 8.0 | Mar. | 1,568 | 8.2 |
| 9 | Nov. | 1,739 | 8.0 | July | 1,678 | 7.6 | May | 1,700 | 7.8 | May | 1,525 | 8.0 |
| 10 | May | 1,704 | 7.9 | June | 1,560 | 7.1 | Feb. | 1,687 | 7.8 | June | 1,386 | 7.2 |
| 11 | June | 1,633 | 7.6 | Jan. | 1,486 | 6.7 | July | 1,678 | 7.7 | Feb. | 1,295 | 6.8 |
| 12 | Feb. | 1,599 | 7.4 | Feb. | 1,385 | 6.3 | June | 1,481 | 6.8 | Jan. | 1,263 | 6.6 |
| | Unk. | 31 | .1 | Unk. | 48 | .2 | Unk. | 45 | .2 | Unk. | 57 | .3 |
| | Av.* | 1,804 | 8.3 | Av.* | 1,840 | 8.3 | Av.* | 1,811 | 8.3 | Av.* | 1,596 | 8.3 |

* Includes unknown month.

DEATHS BY MONTHS AND QUARTERS.

Tables 46 and 47 compare the total number of deaths registered for the year 1892 with the numbers returned for the years immediately preceding, and also with the average for ten years, 1882-91. In Table 46 the comparison is made by quarters of the year in order, while in Table 47 the numbers returned for each month are given, the months being arranged in order of the number of deaths in each.

So far as the distribution of mortality through the different months and quarters of the year is concerned, it should be remembered that these tables refer solely to deaths *returned*, not to all the deaths that actually occurred. Could we know the actual distribution of deaths through the year, it would, doubtless, be quite different from the one given in Tables 46 and 47. Comparing the number of deaths returned for the months of any registration year, it will be observed that, in general, larger numbers are returned for the latter months of the year, which are nearer to the date of enumeration, i. e. May of the year following, and that smaller numbers are returned for the early months of the year which are more remote in time from that date.

This being true as a general statement, it would seem that the deaths returned for the months and quarters of 1892 are distributed in a manner distinctly different from the usual one. The quarter containing the greatest number of deaths is not, as is usually the case, the third, but the last; next in order comes the first quarter, which almost invariably heretofore has shown the smallest number of deaths. As seen in Table 47, the large number of deaths registered for the first quarter of the year depends chiefly on the unusual mortality recorded for the month of January, which had 9.9 per cent of the total deaths of the year instead of about 6.6 per cent, the average per cent for ten years, 1882-91. February also rose above the average, 6.8 per cent, with a per cent of 7.8, but March showed a fall from 8.2 to 8.0 per cent.

The position of January, as first in the order of deaths returned, is unique in the history of Michigan registration. As a rule, this month comes last in the list, not, necessarily, because it is an especially favorable month, but because, with an average mortality so far as the total number of deaths that actually occur are concerned, a smaller proportion of them are recorded than those that occur in any other month, owing to the greater remoteness of this month from the date of enumeration. Only five times previous to 1892 has it risen above twelfth place,—in 1868 and 1889 it stood tenth; in 1879 and 1891, eleventh; and in 1890, eighth in rank,—and its sudden appearance in first place indicates a very excessive mortality during the early part of the year 1892. In both 1890 and 1892 the unusual mortality during the month of January depends, probably, to a large degree on the prevalence of epidemic influenza, and the effect of that disease in increasing the mortality from certain other causes of death.

DEATHS BY SEX.

The number of deaths of males reported for any registration year always considerably exceeds the number of deaths of females. For the year 1892, the ratio was 120.7 to 100, higher than any year given in Table 48 with the single exception of 1890, which showed the same proportion of male deaths. As the male population of the State is larger than the female population, it is necessary to compare the deaths of each sex, as returned, to the corresponding populations in order to ascertain whether a higher death rate actually obtains for males. This is done in Table 48, and the results show

that the mortality for males exceeded that for females by .7 per 1,000 population during the ten-year period 1883-92. For 1892 the difference was even greater, being 1.1 per 1,000.

**Table 48.**—*Deaths in Michigan, by sex, for each of the years 1880-92 inclusive, with death-rates per 1,000 population of same sex, and ratios of deaths of males to deaths of females. (Still-births included.)*

| Year. | Population. | | Number of deaths. | | Rates per 1,000. | | Deaths of males to 100 deaths of females |
|---|---|---|---|---|---|---|---|
| | Males. | Females. | Males. | Females. | Males. | Females. | |
| 1880* | 862,355 | 774,582 | 8,645 | 7,410 | 10.0 | 9.6 | 116.7 |
| 1881 | 890,872 | 800,694 | 10,268 | 8,910 | 11.5 | 11.1 | 115.2 |
| 1882 | 918,390 | 826,805 | 8,713 | 7,664 | 9.5 | 9.3 | 113.7 |
| 1883 | 946,407 | 852,917 | 9,101 | 7,748 | 9.6 | 9.1 | 117.5 |
| 1884* | 974,424 | 879,028 | 9,589 | 8,385 | 9.8 | 9.5 | 114.4 |
| 1885 | 998,983 | 899,542 | 9,025 | 7,569 | 9.1 | 8.4 | 119.2 |
| 1886 | 1,013,543 | 920,055 | 9,725 | 8,402 | 9.6 | 9.1 | 115.7 |
| 1887 | 1,033,102 | 940,599 | 10,563 | 8,877 | 10.2 | 9.4 | 119.0 |
| 1888 | 1,052,661 | 961,092 | 11,722 | 10,024 | 11.1 | 10.4 | 116.9 |
| 1889 | 1,072,221 | 981,596 | 10,964 | 9,297 | 10.2 | 9.5 | 118.1 |
| 1890* | 1,091,780 | 1,002,109 | 11,091 | 9,771 | 10.8 | 9.8 | 120.7 |
| 1891 | 1,111,339 | 1,022,623 | 11,[illegible] | 9,[illegible] | 10.7 | 9.7 | 119.1 |
| 1892 | 1,130,899 | 1,043,136 | 11,[illegible] | 9,[illegible] | 10.6 | 9.4 | 120.7 |
| Av'ge, 1883-92 | 1,042,036 | 950,292 | 10,[illegible] | 8,[illegible] | 10.2 | 9.5 | 117.2 |

* Census years (State census, 1894).

Table 49 presents certain details in regard to the relative numbers of the sexes who died at certain ages during the year 1892. Male decedents outnumber the female decedents in every period of age except in those in which child-bearing and the causes of death incident thereto increase the mortality of the latter sex. Between the ages of fifteen and forty, the excess of deaths of males is more to be properly considered, indeed, except in the period 30-35, is regarded by an excess of female decedents. The excess of male decedents in this period is [illegible]. As shown under the preceding table, the males form the larger portion of the population at [illegible] ages, and the excess of male decedents would be expected to occur at these ages. Whether the mortality rate in proportion to the numbers of each sex at each period of age was greater for either sex at certain periods of age [illegible] a statement of the number of [illegible] ants, by sex at each period of age, which data are not yet [illegible] by the United States census office for the census of 1890. It is to be hoped that these data will be available by the time of the issue of the next report, and may then be corresponding figures as presented in this table [illegible].

**Table 49.**—*Exhibiting, by sex, and by age in periods of years, the number and proportion of persons returned as having died in Michigan during the year 1892. (Still-births included.)*

| Ages in years and periods. | Number of deaths, 1892. | | | | Per cent of deaths at each age to total of all ages. | | | Per cent of each sex to total of both sexes.† | | | | Excess of the sexes by numbers. | | Males to 100 females. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Totals. | Males. | Females. | Unknown. | Totals. | Males. | Females. | Males. | Females. | Excess. Males. | Excess. Females. | Males. | Females. | |
| All ages | 21,729 | 11,387 | 9,809 | 83 | 100.0 | 100.0 | 100.0 | 54.7 | 45.3 | 9.4 | ..... | 2,028 | ..... | 121 |
| Still-births | 1,014 | 597 | 374 | 43 | 4.7 | 5.0 | 3.8 | 61.5 | 38.5 | 23.0 | ..... | 223 | ..... | 160 |
| Under 1 * | 4,090 | 2,321 | 1,760 | 9 | 18.8 | 19.6 | 17.9 | 56.9 | 43.1 | 13.8 | ..... | 561 | ..... | 132 |
| 1 to 2 | 1,013 | 545 | 467 | 1 | 4.7 | 4.6 | 4.8 | 53.9 | 46.1 | 7.8 | ..... | 78 | ..... | 117 |
| 2 to 3 | 520 | 290 | 230 | ..... | 2.4 | 2.4 | 2.3 | 55.8 | 44.2 | 11.6 | ..... | 60 | ..... | 126 |
| 3 to 4 | 377 | 202 | 175 | ..... | 1.7 | 1.7 | 1.8 | 53.6 | 46.4 | 7.2 | ..... | 27 | ..... | 115 |
| 4 to 5 | 281 | 141 | 140 | ..... | 1.3 | 1.2 | 1.4 | 50.2 | 49.8 | .4 | ..... | 1 | ..... | 101 |
| All under 5 * | 6,281 | 3,499 | 2,772 | 10 | 28.9 | 29.6 | 28.3 | 55.8 | 44.2 | 11.6 | ..... | 727 | ..... | 126 |
| 5 to 10 | 987 | 532 | 455 | ..... | 4.5 | 4.5 | 4.4 | 55.0 | 45.0 | 10.0 | ..... | 97 | ..... | 122 |
| 10 to 15 | 526 | 270 | 256 | ..... | 2.4 | 2.3 | 2.6 | 51.3 | 48.7 | 2.6 | ..... | 14 | ..... | 105 |
| 15 to 20 | 770 | 367 | 403 | ..... | 3.5 | 3.1 | 4.1 | 47.7 | 52.3 | ..... | 4.6 | ..... | 36 | 91 |
| 20 to 25 | 949 | 466 | 483 | ..... | 4.4 | 3.9 | 4.9 | 49.1 | 50.9 | ..... | 1.8 | ..... | 17 | 96 |
| 25 to 30 | 890 | 413 | 477 | ..... | 4.1 | 3.5 | 4.9 | 46.4 | 53.6 | ..... | 7.2 | ..... | 64 | 87 |
| 30 to 35 | 806 | 407 | 401 | ..... | 3.7 | 3.4 | 4.1 | 50.4 | 49.6 | .8 | ..... | 6 | ..... | 101 |
| 35 to 40 | 725 | 356 | 369 | ..... | 3.3 | 3.0 | 3.8 | 49.1 | 50.9 | ..... | 1.8 | ..... | 13 | 96 |
| 40 to 45 | 628 | 314 | 314 | ..... | 2.9 | 2.7 | 3.2 | 50.0 | 50.0 | ..... | ..... | ..... | ..... | 100 |
| 45 to 50 | 723 | 393 | 330 | ..... | 3.3 | 3.3 | 3.4 | 54.4 | 45.6 | 8.8 | ..... | 63 | ..... | 119 |
| 50 to 55 | 726 | 415 | 311 | ..... | 3.3 | 3.5 | 3.2 | 57.2 | 42.8 | 14.4 | ..... | 104 | ..... | 133 |
| 55 to 60 | 819 | 471 | 348 | ..... | 3.8 | 4.0 | 3.5 | 57.5 | 42.5 | 15.0 | ..... | 123 | ..... | 135 |
| 60 to 65 | 942 | 510 | 432 | ..... | 4.3 | 4.3 | 4.4 | 54.1 | 45.9 | 8.2 | ..... | 78 | ..... | 118 |
| 65 to 70 | 1,074 | 604 | 470 | ..... | 4.9 | 5.1 | 4.8 | 56.2 | 43.8 | 12.4 | ..... | 134 | ..... | 129 |
| 70 to 75 | 1,138 | 636 | 502 | ..... | 5.2 | 5.6 | 5.1 | 55.9 | 44.1 | 11.8 | ..... | 134 | ..... | 127 |
| 75 to 80 | 1,006 | 592 | 414 | ..... | 4.6 | 5.0 | 4.2 | 58.8 | 41.2 | 17.6 | ..... | 178 | ..... | 143 |
| 80 to 85 | 779 | 441 | 338 | ..... | 3.5 | 3.7 | 3.4 | 56.6 | 43.3 | 13.3 | ..... | 103 | ..... | 130 |
| 85 to 90 | 379 | 205 | 174 | ..... | 1.7 | 1.7 | 1.8 | 54.1 | 45.9 | 8.2 | ..... | 31 | ..... | 118 |
| 90 to 95 | 146 | 78 | 64 | ..... | .6 | .6 | .7 | 54.3 | 45.7 | 8.6 | ..... | 12 | ..... | 119 |
| 95 to 100 | 28 | 13 | 15 | ..... | .1 | .1 | .2 | 46.7 | 64.3 | ..... | 28.6 | ..... | 8 | 56 |
| 100 and over | 4 | ..... | 4 | ..... | ..... | ..... | ..... | ..... | 100.0 | ..... | 100.0 | ..... | 4 | ..... |
| Unknown ages | 425 | 241 | 184 | 30 | 2.0 | 2.0 | 1.8 | 61.9 | 38.6 | 22.6 | ..... | 57 | ..... | 136 |

* Excluding still-births. † Unknown sex excluded.

DEATHS AND DEATH-RATES BY AGES.

Far more important than sex as affecting the death-rate of a population is its constitution with respect to age. For example, the death-rates for children under five years and for persons aged 65 years and over are very high as compared with the rates for that portion of the population aged from 5 to 14 years, or with the rates for young adults. It is evident on this account that the death-rates of different States cannot well be compared without taking the respective age-constitutions of their populations into consideration, and, indeed, in studying the death-rates of the same State for a series of years, the changes in the proportions of inhabitants at different ages ought to be considered.

Such is the purpose of Table 50. It presents statements of the population at certain fairly representative periods of age for each of the years from 1870 to 1892, inclusive. For the inter-census years estimates are made, assuming a uniform average annual increase, in the same manner that the gross population was estimated in Part I (p. 12). The numbers of deaths during each year at the corresponding ages are taken from the reports for each year, and rates per 1,000 population at the same period of age calculated. Also, the per cents of deaths at each period of age to total deaths at all specified ages are stated, although this ratio has the disadvantage that any epidemic that proves especially fatal at one age-period, by increasing the total number of deaths at all ages, apparently depresses the mortality at all other age-periods, expressed as per cents of that total. As the amount of infant mortality is of special interest, an additional line of death-rates of infants aged less than one year per 1,000 living births is added, which may be compared with the corresponding statements based on population and total deaths given above. Still-births are excluded in this table from both births and deaths.

In order to display the differences in the distribution of the population of the State with respect to age, Table 51 was constructed. In this the number of inhabitants at certain periods of age, and the per cents at those periods to total population are given for each United States and State census from 1870 to 1890. The State census of 1874, unfortunately, did not give a statement of the population at each year of age, nor, indeed, of the number, at each five-year period, and hence the corresponding numbers for that year cannot be given.

These changes in the age-constitution of the population would affect the death-rate in two ways, which would have a tendency to more or less counteract each other. The diminished proportion of infants and children under five years of age would tend to reduce the death-rate, while the increased number of inhabitants aged 65 years and over and the greater proportion at advanced middle age (not shown in the table), would affect the death-rate in a contrary manner. As an example of the net effect of such changes, suppose the population of the State in 1890 to be constituted precisely the same as the population of 1870 as regards the relative numbers at each age-period; then if the mortality for each class be that observed for 1890, we shall have the following numbers of deaths at each period of age: under 5 years, 7,916; from 5 to 14 years, inclusive, 1,926; from 15 to 64 years, inclusive, 7,561; aged 65 years and over, 2,371. The total number of deaths at all ages in 1890, the population being distributed as to age in the same manner as in 1870, would be 19,774 and the death-rate would be 9.4 per 1,000. The actual number of deaths that occurred was 20,250 (still-births excluded in both statements), and the death-rate was 9.7 per 1,000. Thus it appears that the registered death-rate for 1890 is slightly in excess of that for 1870, allowance being made for changes in age-distribution of population. It is probable that comparison of other years in the same manner would show even a greater difference, since the relative mortality of elderly persons was exceptionally high in 1890, owing to the epidemic of influenza.

**Table 50.**—*Population, deaths, death-rates per 1,000 population, and per cents of deaths at certain specified periods of age, for each of the years 1870–92, inclusive; also ratio of deaths under one year of age to total living births for each year. (Still-births excluded from both births and deaths.)*

| | 1870. | 1871. | 1872. | 1873. | 1874. | 1875. | 1876. | 1877. | 1878. | 1879. | 1880. | 1881. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Population; all ages* | 1,184,059 | 1,229,347 | 1,274,635 | 1,319,922 | 1,365,210 | 1,410,498 | 1,455,786 | 1,501,074 | 1,546,361 | 1,591,649 | 1,636,937 | 1,682,632 |
| Under 1 year | 32,629 | 33,625 | 34,620 | 35,616 | 36,611 | 37,607 | 38,603 | 39,598 | 40,594 | 41,589 | 42,585 | 43,222 |
| Under 5 years | 164,202 | 168,567 | 172,932 | 177,296 | 181,661 | 186,026 | 190,391 | 194,756 | 199,120 | 203,485 | 207,850 | 210,804 |
| From 5 to 14, inclusive | 286,589 | 295,006 | 303,423 | 311,840 | 320,257 | 328,674 | 337,091 | 345,508 | 353,925 | 362,342 | 370,759 | 379,452 |
| From 15 to 64, inclusive | 700,743 | 730,776 | 760,806 | 790,842 | 820,875 | 850,908 | 880,940 | 910,973 | 941,006 | 971,039 | 1,001,072 | 1,031,177 |
| 65 and over | 32,513 | 34,987 | 37,462 | 39,936 | 42,410 | 44,885 | 47,359 | 49,833 | 52,307 | 54,782 | 57,256 | 60,756 |
| Total deaths at all ages† | 10,540 | 9,462 | 13,157 | 13,984 | 12,036 | 11,361 | 11,930 | 12,195 | 11,971 | 13,658 | 15,364 | 18,547 |
| Under 1 year | 2,428 | 1,959 | 3,071 | 3,290 | 2,909 | 2,679 | 2,780 | 2,649 | 2,424 | 2,806 | 3,283 | 3,964 |
| Under 5 years | 4,359 | 3,575 | 5,348 | 5,625 | 4,674 | 4,334 | 4,475 | 4,483 | 4,212 | 4,944 | 5,695 | 7,125 |
| From 5 to 14, inclusive | 996 | 859 | 1,201 | 1,368 | 953 | 868 | 997 | 1,105 | 1,209 | 1,574 | 1,702 | 2,296 |
| From 15 to 64, inclusive | 3,790 | 3,518 | 4,776 | 5,114 | 4,565 | 4,337 | 4,419 | 4,528 | 4,468 | 4,856 | 5,363 | 6,329 |
| 65 and over | 1,202 | 1,290 | 1,527 | 1,645 | 1,613 | 1,553 | 1,795 | 1,848 | 1,881 | 2,111 | 2,282 | 2,510 |
| Death-rates per 1,000 population; all ages† | 8.9 | 7.7 | 10.3 | 10.6 | 8.8 | 8.1 | 8.2 | 8.1 | 7.7 | 8.6 | 9.4 | 11.0 |
| Under 1 year | 74.4 | 58.3 | 88.7 | 92.4 | 79.5 | 71.2 | 72.0 | 66 9 | 59.7 | 67.5 | 75.7 | 91.7 |
| Under 5 years | 26.5 | 21.2 | 30.9 | 31.7 | 25.7 | 23.3 | 23.5 | 23.0 | 21.2 | 24.3 | 27.4 | 33.8 |
| From 5 to 14, inclusive | 3.5 | 2.9 | 4.0 | 4.4 | 3.0 | 2.6 | 3.0 | 3.2 | 3.4 | 4.3 | 4.6 | 6.1 |
| From 15 to 64, inclusive | 5.4 | 4.8 | 6.3 | 6.5 | 5.6 | 5.1 | 5.0 | 5.0 | 4.6 | 5.0 | 5.4 | 6.1 |
| 65 and over | 37.0 | 36.9 | 38.1 | 41.2 | 38.0 | 34.6 | 37.9 | 37.1 | 36.0 | 38.5 | 39.9 | 41.3 |
| Total deaths at *specified* ages; per cent‡ | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Under 1 year | 23.5 | 21.2 | 23.9 | 23.9 | 24.6 | 24.2 | 23.7 | 22.1 | 20.6 | 20.8 | 21.5 | 21.7 |
| Under 5 years | 42.1 | 38.7 | 41.6 | 40.9 | 39.6 | 39.1 | 38.3 | 37.5 | 35.8 | 36.7 | 37.9 | 39.0 |
| From 5 to 14, inclusive | 9.6 | 9.3 | 9.3 | 9.9 | 8.1 | 7.8 | 8.5 | 9.2 | 10.0 | 11.7 | 11.3 | 12.6 |
| From 15 to 64, inclusive | 36.6 | 38.1 | 37.2 | 37.2 | 38.7 | 39.1 | 37.8 | 37.8 | 38.0 | 36.0 | 35.7 | 34.7 |
| 65 and over | 11.6 | 14.0 | 11.9 | 12.0 | 13.7 | 14.0 | 15.4 | 15.4 | 16.0 | 15.7 | 15.2 | 13.7 |
| Births | 26,589 | 25,904 | 27,692 | 34,260 | 30,687 | 31,329 | 33,589 | 32,671 | 34,367 | 33,373 | 34,585 | 34,058 |
| Deaths under 1 year per 1,000 births | 91.3 | 75.6 | 110.9 | 96.0 | 94.8 | 85.5 | 82.8 | 81.1 | 70.5 | 84.1 | 95.5 | 116.4 |

## Table 50.—CONTINUED.—Deaths and death-rates at specified periods of age, 1870-92.

| | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Population; all ages* | 1,728,327 | 1,774,023 | 1,819,718 | 1,865,413 | 1,911,108 | 1,956,803 | 2,002,499 | 2,048,194 | 2,093,889 | 2,139,584 | 2,185,279 |
| Under 1 year | 43,859 | 44,496 | 45,133 | 45,770 | 46,407 | 47,044 | 47,681 | 48,318 | 48,955 | 49,592 | 50,229 |
| Under 5 years | 213,758 | 216,712 | 219,666 | 222,620 | 225,573 | 228,527 | 231,481 | 234,435 | 237,389 | 240,343 | 243,297 |
| From 5 to 14, inclusive | 388,146 | 396,889 | 405,532 | 414,226 | 422,919 | 431,612 | 440,305 | 448,999 | 457,692 | 466,385 | 475,079 |
| From 15 to 64, inclusive | 1,061,282 | 1,091,388 | 1,121,493 | 1,151,598 | 1,181,703 | 1,211,808 | 1,241,914 | 1,272,019 | 1,302,124 | 1,332,229 | 1,362,334 |
| 65 and over | 64,256 | 67,756 | 71,256 | 74,757 | 78,257 | 81,757 | 85,257 | 88,757 | 92,257 | 95,757 | 99,257 |
| Total deaths at all ages † | 15,683 | 16,022 | 17,187 | 15,638 | 17,278 | 18,585 | 20,406 | 19,113 | 20,250 | 20,989 | 20,715 |
| Under 1 year | 3,213 | 3,313 | 3,995 | 3,337 | 3,860 | 4,050 | 4,625 | 4,081 | 4,111 | 4,368 | 4,090 |
| Under 5 years | 5,583 | 5,585 | 6,313 | 5,252 | 6,146 | 6,494 | 7,122 | 6,462 | 6,452 | 6,575 | 6,281 |
| From 5 to 14, inclusive | 1,835 | 1,522 | 1,548 | 1,318 | 1,398 | 1,476 | 1,446 | 1,422 | 1,717 | 1,541 | 1,498 |
| From 15 to 64, inclusive | 5,584 | 6,056 | 6,222 | 6,030 | 6,329 | 6,942 | 7,703 | 7,355 | 7,910 | 8,062 | 7,980 |
| 65 and over | 2,363 | 2,564 | 2,791 | 2,814 | 3,028 | 3,382 | 3,890 | 3,590 | 3,864 | 4,355 | 4,536 |
| Death-rates per 1,000 population; all ages † | 9.0 | 9.0 | 9.4 | 8.4 | 9.0 | 9.5 | 10.2 | 9.3 | 9.7 | 9.8 | 9.5 |
| Under 1 year | 73.3 | 74.5 | 88.5 | 72.9 | 83.2 | 86.1 | 97.0 | 84.5 | 84.0 | 88.1 | 81.4 |
| Under 5 years | 26.1 | 25.8 | 28.7 | 23.6 | 27.2 | 28.4 | 30.8 | 27.6 | 27.2 | 27.3 | 25.8 |
| From 5 to 14, inclusive | 4.7 | 3.8 | 3.8 | 3.2 | 3.3 | 3.4 | 3.3 | 3.2 | 3.8 | 3.3 | 3.1 |
| From 15 to 64, inclusive | 5.3 | 5.5 | 5.5 | 5.2 | 5.4 | 5.7 | 6.2 | 5.8 | 6.1 | 6.1 | 5.9 |
| 65 and over | 36.8 | 37.7 | 39.2 | 37.6 | 38.7 | 41.4 | 44.9 | 40.4 | 41.9 | 45.5 | 45.7 |
| Total deaths at *specified* ages; per cent‡ | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Under 1 year | 20.9 | 21.1 | 23.7 | 21.6 | 22.8 | 22.1 | 23.0 | 21.7 | 20.6 | 21.3 | 20.2 |
| Under 5 years | 36.3 | 35.5 | 37.4 | 34.1 | 36.4 | 35.5 | 35.4 | 34.8 | 32.4 | 32.0 | 31.0 |
| From 5 to 14, inclusive | 11.9 | 9.7 | 9.2 | 8.6 | 8.3 | 8.1 | 7.2 | 7.6 | 8.6 | 7.5 | 7.4 |
| From 15 to 64, inclusive | 36.3 | 38.5 | 36.9 | 39.1 | 37.5 | 37.9 | 38.3 | 39.1 | 39.7 | 39.3 | 39.3 |
| 65 and over | 15.4 | 16.3 | 16.5 | 18.2 | 17.9 | 18.5 | 19.1 | 19.1 | 19.4 | 21.2 | 22.4 |
| Births | 36,234 | 39,925 | 39,489 | 41,111 | 40,186 | 45,329 | 47,594 | 48,070 | 50,909 | 49,722 | 45,207 |
| Deaths under 1 year per 1,000 births | 88.7 | 83.0 | 101.2 | 81.2 | 96.1 | 89.3 | 97.2 | 84.9 | 80.8 | 87.8 | 90.5 |

* Includes 12 of unknown age in 1870; 4,427 of unknown age in 1890. † Including deaths at unknown age. ‡ Not including deaths at unknown age.

**Table 51.**—*Comparison of the age-constitutions of the populations of Michigan as stated by the successive United States and State censuses from 1870 to 1890.*

| Periods of age. | United States census, 1870. | | State census, 1874* | | United States census, 1880. | | State census, 1884. | | United States census, 1890. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. | Number. | Per cent. |
| All ages | 1,184,059 | 100.0 | 1,334,031 | 100.0 | 1,636,937 | 100.0 | 1,853,658 | 100.0 | 2,093,889 | 100.0 |
| Under 1 year | 32,629 | 2.8 | ..... | ..... | 42,585 | 2.6 | 49,574 | 2.7 | 48,955 | 2.3 |
| Under 5 years | 164,202 | 13.9 | 181,855 | 13.6 | 207,850 | 12.7 | 225,973 | 12.2 | 237,359 | 11.3 |
| From 5 to 14, inclusive | 286,589 | 24.2 | ..... | ..... | 370,759 | 22.6 | 413,851 | 22.3 | 457,692 | 21.9 |
| From 15 to 64, inclusive | 700,743 | 59.2 | ..... | ..... | 1,001,072 | 61.2 | 1,143,778 | 61.7 | 1,302,124 | 62.2 |
| Aged 65 and over | 32,513 | 2.7 | ..... | ..... | 57,256 | 3.5 | 68,400 | 3.6 | 92,257 | 4.4 |
| Unknown ages † | 12 | ..... | ..... | ..... | ..... | ..... | 1,656 | .1 | 4,427 | .2 |

* Ages not stated by this census in form convenient for comparison.
† Unknown ages distributed *pro rata* among specified ages in censuses of 1870 (?) and 1880.

It appears that the proportions of inhabitants at the earlier periods of age have been steadily decreasing through the last two decades, and that the proportions of those at more advanced ages have been increasing. To this statement one exception may be noted in that the percentage of infants under one year of age was less in 1880 than in 1884. The enumeration of population of less than one year of age is subject to many difficulties and inaccuracies, and it may be due to these that the absolute number of infants under one year is less in 1890 than in 1884.

Table 52 compares the decennial rates of increase of the several periods of age. Rates below the average are shown for the early periods of life, and the decrease in decennial rates of increase is very marked for population under one year and under five years of age, being much greater in proportion than the decrease in the rate for all ages. The experience of Michigan in this respect is accordant with the changes going on in the population of the United States as a whole, and referred to on a previous page (p. 40). The proximate reasons are a steadily diminishing birth-rate and a slightly increasing rate of infant mortality.

**Table 52.**—*Decennial per cents of increase of population at certain specified periods of age.*

| Periods of age. | 1880 over 1870. | 1884 over 1874.* | 1890 over 1880. |
|---|---|---|---|
| All ages | 38.25 | 38.95 | 27.92 |
| Under 1 year | 30.51 | ..... | 14.96 |
| Under 5 years | 26.58 | 24.26 | 14.21 |
| From 5 to 14, inclusive | 29.37 | ..... | 23.45 |
| From 15 to 64, inclusive | 42.86 | ..... | 30.07 |
| Aged 65 and over | 76.10 | ..... | 61.13 |

* Ages not stated by census of 1874 in form convenient for comparison.

DEATHS BY PERIODS OF AGE AND MONTHS OF DEATH.

Table 53 exhibits the deaths of 1892 arranged according to the months of death and periods of age of the decedents. Still-births are included and also deaths at unspecified ages, whence the ratios given for deaths under one year and under five years of age differ from the statements made in Table 50. The periods of age above five years are also different from those of Table 50, but agree with the form of this table in previous reports, thus enabling comparisons to be conveniently made with other years. So far as the relative numbers of deaths in the several months is concerned, this table would be far more valuable were it not certain, as already referred to under Tables 46 and 47, that the deaths returned for any month are largely affected by the nearness or remoteness of that month from the date of enumeration in May, 1893.

Including still-births, nearly one-quarter of the total number of deaths recorded are those of infants under one year of age, and over one-third are those of children under five years. About one-third of the total deaths are those of persons aged from five to fifty years, and the remaining third is constituted of persons aged fifty years and over. The per cent of deaths over fifty years of age (32.3 per cent) is somewhat higher than that for 1891 (30.9 per cent), but the ratios of the other ages are generally lower. The comparative death-rates at different ages for successive years can be better studied in Table 50 than here, especially as the constituent populations at the specified ages are there considered.

A very remarkable feature of the returns of deaths for the year 1892 is the high mortality recorded for January, and for the first quarter of the year. This table furnishes valuable information as to the distribution of this mortality according to age at death. Compared with the corresponding table in the last report (Table 49, p. 137, Registration Report of 1891), a slight increase in the per cent of deaths under 5 years is noted for January (6.2 to 7.8); also for the ages 20 to 50 (6.2 to 9.2), but the most striking rise is in deaths of persons aged 50 years and over (7.2 to 13.8). There is only a small increase in the total number of deaths over 50 years in 1892 as compared with 1891, but the number of deaths in January, 1892, at that age is nearly double the number in 1891. Taking the two tables together, and comparing the rates for the successive months, a wave of excessive mortality for elderly persons evidently began in 1891 and reached its climax in January, 1892, from which point it rapidly declined. The latter months of 1892 show an unusually low rate for this class. The causes for these peculiar returns for these years may probably be considered to be the direct and indirect effects of epidemic influenza, the last general appearance of which was during the winter of 1891-92.

For children under one year of age and for children under five years, the maximum mortality, according to the returns, fell in the month of August. The per cents of total deaths during the year are high both for this month and for September on account of the prevalence of the diarrheal diseases at this time, and especially the large number of deaths reported from cholera infantum in the cities. For children aged from five to ten years, the mortality reported was largest for April, November and December. Diphtheria showed corresponding maxima for 1892. The deaths of persons aged twenty to fifty years are distributed with greater regularity through the year than those of younger or more advanced age-periods. The percentage for the early months, however, is unusually high for this class, as has already been pointed out.

**Table 53.**—*The relation of the deaths at different periods of age to deaths at all ages, by months; and for the same period of age the relation of the deaths in each month to the deaths in the year 1892.* (*Still-births included.*)

| Deaths by ages in periods of years. | | Year, 1892. | Months, 1892. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| All ages | | * 21,729 | 2,152 | 1,687 | 1,734 | 1,879 | 1,700 | 1,481 | 1,678 | 1,942 | 1,802 | 1,892 | 1,788 | 1,949 |
| Under 1 † | Number | 5,104 | 386 | 335 | 398 | 392 | 372 | 321 | 451 | 660 | 530 | 430 | 390 | 438 |
| | Per cent of all ages | 23.5 | 17.9 | 19.9 | 22.7 | 20.9 | 21.9 | 21.7 | 26.9 | 34.0 | 29.4 | 22.7 | 21.8 | 22.5 |
| | Per cent of deaths, 1892 | 100.0 | 7.6 | 6.6 | 7.7 | 7.7 | 7.3 | 6.3 | 8.8 | 12.9 | 10.4 | 8.4 | 7.6 | 8.6 |
| Under 5 † | Number | 7,295 | 568 | 492 | 569 | 611 | 554 | 462 | 632 | 866 | 731 | 602 | 562 | 634 |
| | Per cent of all ages | 33.6 | 26.4 | 29.2 | 32.8 | 32.5 | 32.6 | 31.2 | 37.7 | 44.6 | 40.6 | 31.8 | 31.4 | 32.5 |
| | Per cent of deaths, 1892 | 100.0 | 7.8 | 6.7 | 7.8 | 8.4 | 7.6 | 6.3 | 8.7 | 11.9 | 10.0 | 8.3 | 7.7 | 8.7 |
| 5 to 10 | Number | 967 | 55 | 60 | 74 | 97 | 81 | 81 | 62 | 64 | 87 | 94 | 103 | 105 |
| | Per cent of all ages | 4.5 | 2.6 | 3.6 | 4.3 | 5.2 | 4.8 | 5.5 | 3.7 | 3.3 | 4.8 | 5.0 | 5.8 | 5.4 |
| | Per cent of deaths, 1892 | 100.0 | 5.7 | 6.2 | 7.7 | 10.0 | 8.4 | 8.4 | 6.4 | 6.6 | 9.0 | 9.7 | 10.7 | 10.9 |
| 10 to 20 | Number | 1,296 | 76 | 92 | 104 | 111 | 138 | 95 | 108 | 112 | 100 | 127 | 119 | 111 |
| | Per cent of all ages | 6.0 | 3.5 | 5.5 | 6.0 | 5.9 | 8.1 | 6.4 | 6.4 | 5.8 | 5.5 | 6.7 | 6.7 | 5.7 |
| | Per cent of deaths, 1892 | 100.0 | 5.9 | 7.1 | 8.0 | 8.6 | 10.6 | 7.3 | 8.3 | 8.6 | 7.7 | 9.8 | 9.2 | 8.6 |
| 20 to 50 | Number | 4,723 | 436 | 357 | 412 | 399 | 381 | 350 | 368 | 369 | 362 | 450 | 395 | 441 |
| | Per cent of all ages | 21.7 | 20.3 | 21.2 | 23.8 | 21.2 | 22.4 | 23.6 | 21.7 | 19.0 | 20.1 | 23.8 | 22.1 | 22.6 |
| | Per cent of deaths, 1892 | 100.0 | 9.2 | 7.6 | 8.7 | 8.4 | 8.1 | 7.4 | 7.8 | 7.8 | 7.7 | 9.5 | 8.4 | 9.3 |
| 50 and over | Number | 7,023 | 967 | 657 | 560 | 614 | 516 | 466 | 478 | 496 | 490 | 570 | 573 | 626 |
| | Per cent of all ages | 32.3 | 44.9 | 39.0 | 32.3 | 32.7 | 30.4 | 31.3 | 28.5 | 25.5 | 27.2 | 30.1 | 32.0 | 32.1 |
| | Per cent of deaths, 1892 | 100.0 | 13.8 | 9.4 | 8.0 | 8.7 | 7.3 | 6.6 | 6.8 | 7.1 | 7.0 | 8.1 | 8.2 | 8.9 |
| Unknown ages | Number | 425 | 50 | 29 | 15 | 47 | 30 | 27 | 30 | 35 | 32 | 49 | 36 | 32 |
| | Per cent of all ages | 2.0 | 2.3 | 1.7 | .9 | 2.5 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 2.6 | 2.0 | 1.6 |
| | Per cent of deaths, 1892 | 100.0 | 11.8 | 6.8 | 3.5 | 11.1 | 7.1 | 6.4 | 7.1 | 8.2 | 7.5 | 11.5 | 8.5 | 7.5 |

* Including 45 deaths in unknown month. † Including still-births.

In Table 54 a full statement is given, for each county of the State, of the number of persons of each sex who died during each month of the year 1892, and also the ages, grouped in periods of five years, of the decedents in each county. As the number of deaths returned from any county depends to a great extent upon the number of inhabitants, the data given in this table should be considered in connection with Table 12, Part I, in which the death-rates per 1,000 estimated population are calculated. Some interesting comparisons may be found also in Table 13 of the absolute numbers of deaths returned from each county for the two years 1891 and 1892.

The deaths at the first five-year period, children under five years of age, are of especial interest as indicative of the amount of infant mortality. It would have been desirable to have statements of the number of deaths at each age under five years, and also to distinguish between the months of the first year of life, since the death-rate very rapidly diminishes with a slight increase in age at this period. It should be remembered that still-births are included in this table, and also that the numbers returned for each period for different counties may be dependent, to a large extent, upon the special age-distribution of the population. Thus, counties of the Upper Peninsula have usually a larger proportion of children and young adults than the remainder of the State; counties of the southern part of the Lower Peninsula show a predominance of inhabitants of advanced years, and the deaths of children returned from these parts of the State vary in like manner.

In order to obtain a basis of comparison, the death-rates of children under five years of age per 1,000 population of the same age at the last census may be stated for each county. No allowance can be made in such a comparison for growth during the two years 1890-92, but if such growth be distributed with a fair degree of uniformity over the State, the results obtained for the different counties will be roughly comparable.

Taking the average death-rate of the State for children under five years of age (30.7 per 1,000) as the standard, we may distinguish four groups of counties having child mortalities (1) over 50 per cent above the average; (2) less than 50 per cent above the average; (3) less than 50 per cent below the average; and, finally, (4) more than 50 per cent below the average. The counties in each group are as follows:—

*Over fifty per cent above the average:*—Gogebic, 115.7; Dickinson, Iron, Marquette and Menominee (taken together since Dickinson was formed from the other three since the last census), 52.6; Houghton, 69.0; Keweenaw, 58.7; Luce, 57.3; Wayne, 49.9. *Average of nine counties, 44.8.*

*Less than fifty per cent above the average:*—Alpena, 31.8; Bay, 38.1; Benzie, 33.2; Cheboygan, 34.7; Delta, 31.8; Iosco, 31.6; Kent, 37.5; Missaukee, 41.7; Muskegon, 33.3; Saginaw, 41.7; Schoolcraft, 31.3; Wexford, 31.7. *Average of 12 counties, 34.9.*

*Less than fifty per cent below the average:*—Alcona, 28.2; Allegan, 23.3; Antrim, 25.2; Arenac, 27.2; Baraga, 27.7; Berrien, 19.0; Calhoun, 23.5; Charlevoix, 22.9; Chippewa, 23.7; Clare, 20.5; Clinton, 24.4; Crawford, 27.8; Emmet, 18.9; Genesee, 22.5; Grand Traverse, 27.3; Hillsdale, 15.7; Huron, 23.1; Ingham, 25.8; Ionia, 18.9; Isabella, 18.5; Jackson, 27.9; Kalamazoo, 18.9; Kalkaska, 18.1; Leelanau, 18.0; Mackinac, 20.4; Macomb, 23.4; Manistee, 27.3; Mason, 29.6; Mecosta, 20.0; Midland, 23.7; Monroe, 20.3; Oceana, 15.5; Ogemaw, 20.2; Ontonagon, 25.0; Osceola, 17.8; Oscoda, 18.1; Otsego, 25.6; Ottawa, 25.9; Presque Isle, 21.4; Roscommon, 29.5; Sanilac, 21.3; St. Clair, 26.5; St. Joseph, 24.0; Van Buren, 24.2; Washtenaw, 17.8. *Average of 45 counties, 22.8.*

*Over fifty per cent below the average:*—Alger, 7.1; Barry, 15.1; Branch, 13.7; Cass, 13.0; Eaton, 11.4; Gladwin, 7.9; Gratiot, 14.0; Lake, 12.2; Lapeer, 14.4; Lenawee, 11.6; Livingston, 12.1; Manitou, 10.2; Montcalm, 13.9; Montmorency, 9.1; Newaygo, 14.6; Oakland, 14.9; Shiawassee, 14.1; Tuscola, 15.1. *Average of 18 counties, 12.5.*

**Table 54.** *Exhibiting for the State and counties, by sex, the number of deaths returned in each month of the year 1892, and the number of deaths of each period of age. (Still-births included.)*

| State and counties. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| State .... | Total. | 21,729 | 2152 | 1887 | 1734 | 1879 | 1700 | 1481 | 1678 | 1942 | 1802 | 1692 | 1788 | 1949 | 45 | 7295 | 987 | 526 | 770 | 949 | 890 | 808 | 725 | 628 | 723 | 726 | 819 | 942 | 1074 | 1126 | 1006 | 1330 | 425 |
| | Males | 11,837 | 1148 | 996 | 914 | 997 | 909 | 817 | 962 | 1059 | 999 | 1033 | 990 | 1051 | 22 | 4096 | 532 | 270 | 367 | 466 | 413 | 407 | 356 | 314 | 393 | 415 | 471 | 510 | 604 | 658 | 592 | 732 | 241 |
| | Females | 9,869 | 990 | 777 | 786 | 878 | 788 | 657 | 710 | 879 | 797 | 854 | 785 | 891 | 22 | 3146 | 435 | 256 | 403 | 483 | 477 | 401 | 369 | 314 | 330 | 311 | 348 | 432 | 470 | 468 | 414 | 598 | 154 |
| | Unknown | 83 | 14 | 4 | 4 | 9 | 3 | 7 | 6 | 4 | 6 | 5 | 13 | 7 | 1 | 53 | | | | | | | | | | | | | | | | | 30 |
| Alcona .. | Total | 40 | 1 | 1 | 2 | 4 | 7 | 4 | 3 | 3 | 1 | 4 | 5 | 5 | | 20 | 1 | 2 | | 1 | 2 | 1 | | 1 | 1 | 2 | 2 | 2 | | | 3 | 1 | 1 |
| | Males | 23 | | | 1 | 2 | 5 | 2 | 1 | 2 | 1 | 3 | 3 | 3 | | 12 | | 1 | | 1 | | | | 1 | 1 | 2 | 1 | | | | 2 | 1 | 1 |
| | Females | 17 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 1 | | 1 | 2 | 2 | | 8 | 1 | 1 | | | 2 | 1 | | | | | 1 | 2 | | | 1 | | |
| Alger ..... | Total | 10 | | | | 1 | | | 1 | 1 | | 2 | 3 | 2 | | 1 | 1 | | | | | 2 | 1 | 1 | 1 | 1 | | | | | | 1 | 1 |
| | Males | 7 | | | | 1 | | | | 1 | | | 3 | 2 | | | 1 | | | | | 2 | 1 | | | 1 | | | | | | 1 | 1 |
| | Females | 3 | | | | | | | 1 | | | 2 | | | | 1 | | | | | | | | 1 | 1 | | | | | | | | |
| Allegan..... | Total | 356 | 37 | 29 | 36 | 30 | 35 | 16 | 19 | 21 | 27 | 30 | 36 | 39 | 1 | 99 | 18 | 15 | 13 | 6 | 14 | 8 | 13 | 15 | 9 | 7 | 16 | 15 | 25 | 24 | 22 | 27 | 10 |
| | Males | 192 | 17 | 14 | 17 | 12 | 19 | 9 | 15 | 12 | 11 | 23 | 22 | 21 | | 57 | 9 | 9 | 4 | 1 | 6 | 5 | 7 | 7 | 6 | 6 | 9 | 7 | 11 | 15 | 12 | 17 | 4 |
| | Females | 163 | 20 | 15 | 19 | 18 | 16 | 7 | 4 | 9 | 16 | 7 | 13 | 18 | 1 | 41 | 9 | 6 | 9 | 5 | 8 | 3 | 6 | 8 | 3 | 1 | 7 | 8 | 14 | 9 | 10 | 10 | 6 |
| | Unknown | 1 | | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | |
| Alpena ..... | Total | 154 | 5 | 12 | 10 | 12 | 14 | 9 | 8 | 18 | 22 | 14 | 13 | 16 | 1 | 78 | 13 | 1 | 9 | 3 | 7 | 7 | 3 | 3 | 4 | 3 | 2 | 6 | 2 | 2 | 3 | 2 | 11 |
| | Males | 87 | | 6 | 7 | 10 | 8 | 3 | 5 | 14 | 11 | 7 | 8 | 8 | | 44 | 8 | 1 | 5 | 2 | 3 | 2 | 1 | | 3 | 3 | 2 | 4 | 1 | 1 | 3 | 2 | 3 |
| | Females | 67 | 5 | 6 | 3 | 2 | 6 | 6 | 3 | 4 | 11 | 7 | 5 | 8 | 1 | 29 | 5 | | 4 | 1 | 5 | 5 | 2 | 3 | 1 | | | 2 | 1 | 1 | | | 8 |
| Antrim ..... | Total | 87 | 8 | 7 | 9 | 7 | 8 | 9 | 7 | 5 | 4 | 12 | 5 | 6 | | 32 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 3 | 2 | 3 | 4 | 1 | 3 | |
| | Males | 51 | 6 | 3 | 5 | 4 | 5 | 5 | 5 | 4 | 4 | 7 | 3 | 3 | | 19 | 3 | 2 | 3 | 2 | 2 | | 4 | 4 | 2 | 3 | 3 | | 3 | 3 | | 1 | |
| | Females | 36 | 2 | 4 | 4 | 3 | 3 | 4 | 2 | 1 | | 5 | 2 | 3 | | 13 | | 1 | 1 | 2 | 2 | 4 | | | 3 | 1 | | 2 | | 1 | 1 | 3 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arenac | Total | 51 | 6 | 5 | 4 | 4 | 3 | 5 | 1 | 2 | 4 | 9 | 5 | 3 | .. | 22 | 9 | 1 | 6 | 2 | 1 | 2 | 3 | 1 | ---- | 1 | ---- | .. | ---- | 2 | ---- | 1 | --- |
| | Males | 31 | 3 | 3 | 1 | 2 | 3 | 3 | 1 | ---- | 1 | 7 | 4 | 3 | .. | 14 | 6 | 1 | 2 | 1 | .. | 1 | 2 | ---- | ---- | 1 | ---- | .. | ---- | 2 | ---- | 1 | --- |
| | Females | 20 | 3 | 2 | 3 | 2 | ---- | 2 | ---- | 2 | 3 | 2 | 1 | ---- | .. | 8 | 3 | ---- | 4 | 1 | 1 | 1 | 1 | 1 | ---- | ---- | ---- | .. | ---- | .. | ---- | ---- | --- |
| Baraga | Total | 41 | 4 | 2 | 2 | 4 | 4 | 3 | 1 | 7 | 7 | 2 | 3 | 2 | .. | 11 | 1 | ---- | 3 | 4 | 3 | 3 | .. | 1 | 4 | ---- | ---- | 2 | 3 | 2 | 3 | 1 | --- |
| | Males | 26 | 2 | 2 | 1 | 3 | 4 | 2 | ---- | 4 | 3 | 2 | 1 | 2 | .. | 7 | 1 | ---- | 2 | 2 | 1 | 3 | .. | ---- | 3 | ---- | ---- | 1 | 2 | 2 | 1 | 1 | --- |
| | Females | 15 | 2 | ---- | 1 | 1 | ---- | 1 | 1 | 3 | 4 | ---- | 2 | ---- | .. | 4 | ---- | ---- | 1 | 2 | 2 | .. | .. | 1 | 1 | ---- | ---- | 1 | 1 | .. | 2 | ---- | --- |
| Barry | Total | 164 | 13 | 9 | 12 | 21 | 18 | 12 | 13 | 13 | 12 | 13 | 14 | 14 | .. | 34 | 3 | 5 | 5 | 7 | 8 | 5 | 7 | 4 | 3 | 6 | 10 | 7 | 14 | 13 | 8 | 23 | 2 |
| | Males | 93 | 10 | 7 | 8 | 9 | 9 | 4 | 7 | 8 | 6 | 11 | 9 | 5 | .. | 23 | 1 | 3 | 2 | 2 | 4 | 3 | 6 | 3 | 1 | 2 | 5 | 6 | 7 | 7 | 5 | 12 | 1 |
| | Females | 71 | 3 | 2 | 4 | 12 | 9 | 8 | 6 | 5 | 6 | 2 | 5 | 9 | .. | 11 | 2 | 2 | 3 | 5 | 4 | 2 | 1 | 1 | 2 | 4 | 5 | 1 | 7 | 6 | 3 | 11 | 1 |
| Bay | Total | 594 | 47 | 41 | 42 | 30 | 44 | 43 | 38 | 65 | 61 | 62 | 60 | 61 | .. | 293 | 57 | 18 | 22 | 23 | 19 | 18 | 11 | 17 | 15 | 17 | 18 | 10 | 14 | 15 | 13 | 10 | 4 |
| | Males | 319 | 22 | 21 | 19 | 19 | 25 | 23 | 26 | 31 | 33 | 36 | 33 | 31 | .. | 149 | 34 | 12 | 8 | 9 | 9 | 10 | 7 | 9 | 9 | 10 | 15 | 5 | 9 | 10 | 6 | 6 | 2 |
| | Females | 274 | 25 | 19 | 23 | 11 | 19 | 20 | 12 | 34 | 28 | 26 | 27 | 30 | .. | 143 | 23 | 6 | 14 | 14 | 10 | 8 | 4 | 8 | 6 | 7 | 3 | 5 | 5 | 5 | 7 | 4 | 2 |
| | Unknown | 1 | ---- | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | .. | 1 | ---- | ---- | ---- | ---- | .. | .. | .. | ---- | ---- | ---- | ---- | .. | ---- | .. | ---- | ---- | --- |
| Benzie | Total | 53 | 3 | 1 | 5 | 5 | 8 | 3 | 5 | 4 | 7 | 4 | 5 | 3 | .. | 20 | ---- | 2 | 3 | 5 | 1 | 2 | 3 | 1 | 1 | 1 | ---- | 4 | 3 | 4 | 1 | 1 | 1 |
| | Males | 34 | 2 | 1 | 2 | 3 | 6 | 2 | 2 | 4 | 6 | 2 | 2 | 2 | .. | 15 | .. | 2 | 1 | 4 | 1 | ---- | 2 | ---- | 1 | ---- | ---- | 2 | 2 | 3 | ---- | 1 | --- |
| | Females | 19 | 1 | ---- | 3 | 2 | 2 | 1 | 3 | ---- | 1 | 2 | 3 | 1 | .. | 5 | ---- | ---- | 2 | 1 | .. | 2 | 1 | 1 | ---- | 1 | ---- | 2 | 1 | 1 | 1 | ---- | 1 |
| Berrien | Total | 314 | 32 | 50 | 17 | 28 | 23 | 20 | 20 | 25 | 19 | 26 | 29 | 25 | .. | 80 | 7 | 7 | 10 | 12 | 13 | 15 | 7 | 10 | 17 | 15 | 12 | 9 | 16 | 27 | 18 | 34 | 5 |
| | Males | 160 | 13 | 29 | 10 | 11 | 11 | 8 | 12 | 10 | 10 | 14 | 15 | 17 | .. | 38 | 5 | 2 | 5 | 8 | 4 | 6 | 6 | 6 | 11 | 5 | 5 | 7 | 9 | 14 | 9 | 16 | 4 |
| | Females | 154 | 19 | 21 | 7 | 17 | 12 | 12 | 8 | 15 | 9 | 12 | 14 | 8 | .. | 42 | 2 | 5 | 5 | 4 | 9 | 9 | 1 | 4 | 6 | 10 | 7 | 2 | 7 | 13 | 9 | 18 | 1 |
| Branch | Total | 255 | 49 | 21 | 24 | 20 | 16 | 18 | 8 | 15 | 18 | 21 | 20 | 25 | .. | 30 | 5 | 4 | 3 | 9 | 4 | 8 | 6 | 11 | 7 | 14 | 15 | 18 | 26 | 25 | 24 | 42 | 4 |
| | Males | 135 | 29 | 14 | 11 | 12 | 11 | 8 | 7 | 6 | 7 | 14 | 8 | 8 | .. | 14 | 3 | 1 | 1 | 5 | 3 | 2 | 2 | 4 | 1 | 9 | 7 | 8 | 13 | 15 | 18 | 27 | 2 |
| | Females | 120 | 20 | 7 | 13 | 8 | 5 | 10 | 1 | 9 | 11 | 7 | 12 | 17 | .. | 16 | 2 | 3 | 2 | 4 | 1 | 6 | 4 | 7 | 6 | 5 | 8 | 10 | 13 | 10 | 6 | 15 | 2 |
| Calhoun | Total | 409 | 39 | 29 | 39 | 49 | 28 | 22 | 29 | 18 | 41 | 34 | 38 | 41 | 2 | 88 | 2 | 5 | 11 | 21 | 14 | 20 | 13 | 16 | 14 | 17 | 24 | 24 | 28 | 34 | 33 | 36 | 9 |
| | Males | 215 | 17 | 17 | 20 | 24 | 15 | 14 | 16 | 9 | 27 | 14 | 20 | 21 | 1 | 46 | 2 | 2 | 5 | 12 | 7 | 7 | 3 | 5 | 9 | 6 | 14 | 13 | 12 | 20 | 19 | 27 | 6 |
| | Females | 192 | 22 | 12 | 19 | 25 | 13 | 8 | 13 | 9 | 13 | 20 | 17 | 20 | 1 | 40 | ---- | 3 | 6 | 9 | 7 | 13 | 10 | 11 | 5 | 11 | 10 | 11 | 16 | 14 | 14 | 9 | 3 |
| | Unknown | 2 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1 | ---- | 1 | ---- | .. | 2 | ---- | ---- | ---- | ---- | .. | ---- | .. | ---- | ---- | ---- | ---- | .. | ---- | .. | ---- | ---- | --- |

Table 54.—CONTINUED.—*Deaths by counties, by sex, by months, and by ages, 1892.*

| Counties. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Cass | Total | 175 | 22 | 10 | 9 | 15 | 11 | 13 | 11 | 12 | 20 | 12 | 16 | 24 | .. | 26 | 5 | 8 | 6 | 12 | 7 | 5 | 8 | 5 | 9 | 5 | 6 | 10 | 17 | 11 | 11 | 22 | 2 |
| | Males | 100 | 12 | 6 | 4 | 10 | 7 | 9 | 9 | 4 | 8 | 6 | 10 | 15 | .. | 14 | 1 | 3 | 2 | 7 | 5 | 2 | 3 | 2 | 6 | 3 | 3 | 7 | 10 | 8 | 6 | 16 | 2 |
| | Females | 75 | 10 | 4 | 5 | 5 | 4 | 4 | 2 | 8 | 12 | 6 | 6 | 9 | .. | 12 | 4 | 5 | 4 | 5 | 2 | 3 | 5 | 3 | 3 | 2 | 3 | 3 | 7 | 3 | 5 | 6 | .. |
| Charlevoix | Total | 75 | 4 | 4 | 12 | 10 | 6 | 5 | 3 | 5 | 9 | 5 | 5 | 7 | .. | 26 | 1 | 1 | 5 | 4 | 5 | 3 | 3 | 1 | 2 | 1 | 1 | 6 | 2 | 1 | 2 | 3 | 3 |
| | Males | 46 | 1 | 1 | 9 | 7 | 3 | 2 | 3 | 3 | 7 | 2 | 3 | 5 | .. | 14 | .... | 1 | 4 | 2 | 4 | 2 | 2 | 1 | 2 | 1 | .... | 4 | 1 | .. | 1 | 2 | 5 |
| | Females | 29 | 3 | 3 | 3 | 3 | 3 | 3 | .... | 2 | 2 | 3 | 2 | 2 | .. | 12 | 1 | .... | 1 | 2 | 1 | 1 | 1 | .... | .... | .... | 1 | 2 | 1 | 1 | 1 | 1 | 3 |
| Cheboygan | Total | 110 | 6 | 7 | 8 | 9 | 11 | 10 | 6 | 17 | 14 | 7 | 4 | 11 | .. | 56 | 8 | 9 | 6 | 3 | 1 | 2 | 2 | 2 | 1 | 3 | 2 | 4 | 2 | 3 | 5 | .. | 1 |
| | Males | 57 | 5 | 6 | 6 | 4 | 5 | 5 | 2 | 3 | 10 | 3 | 1 | 7 | .. | 29 | 6 | 3 | 2 | 2 | .... | .... | 1 | 2 | .... | 2 | 2 | 1 | 1 | 3 | 2 | .. | 1 |
| | Females | 52 | 1 | 1 | 2 | 5 | 6 | 5 | 4 | 14 | 4 | 4 | 3 | 3 | .. | 26 | 2 | 6 | 4 | 1 | 1 | 2 | 1 | .... | 1 | 1 | .... | 3 | 1 | .. | 3 | .. | .. |
| | Unknown | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .. | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. |
| Chippewa | Total | 98 | 5 | 2 | 8 | 5 | 7 | 14 | 2 | 9 | 10 | 9 | 9 | 16 | 2 | 37 | 2 | 2 | 9 | 5 | 3 | 3 | 9 | 2 | 3 | 2 | 1 | 4 | 4 | 2 | .. | 4 | 6 |
| | Males | 55 | 1 | 1 | 5 | 2 | 2 | 9 | 2 | 6 | 7 | 4 | 5 | 9 | 2 | 18 | 1 | 2 | 6 | 1 | .... | 1 | 5 | 2 | 3 | 1 | .... | 4 | 3 | 2 | .. | 1 | 5 |
| | Females | 43 | 4 | 1 | 3 | 3 | 5 | 5 | .... | 3 | 3 | 5 | 4 | 7 | .. | 19 | 1 | .... | 3 | 4 | 3 | 2 | 4 | .... | .... | 1 | 1 | .... | 1 | .. | .. | 3 | 1 |
| Clare | Total | 45 | 3 | .... | 1 | 2 | 1 | 1 | 7 | 4 | 4 | 8 | 4 | 5 | 5 | 20 | .... | .... | 2 | 3 | 3 | 2 | 1 | 1 | .... | 1 | 2 | 2 | 2 | 3 | 1 | 2 | .. |
| | Males | 25 | 1 | .... | 1 | 2 | .... | 1 | 4 | 3 | 2 | 4 | 1 | 3 | 3 | 9 | .... | .... | .... | 3 | 1 | 1 | 1 | 1 | .... | 1 | 1 | 1 | 2 | 2 | .. | 2 | .. |
| | Females | 20 | 2 | .... | .... | .... | 1 | .... | 3 | 1 | 2 | 4 | 3 | 2 | 2 | 11 | .... | .... | 2 | .... | 2 | 1 | .... | .... | .... | .... | 1 | 1 | .... | 1 | 1 | .. | .. | .. |
| Clinton | Total | 241 | 23 | 20 | 23 | 22 | 18 | 10 | 23 | 16 | 18 | 19 | 27 | 22 | .. | 61 | 4 | 8 | 6 | 4 | 10 | 8 | 9 | 7 | 9 | 13 | 10 | 11 | 24 | 17 | 15 | 22 | 3 |
| | Males | 123 | 16 | 8 | 13 | 10 | 11 | 7 | 15 | 10 | 7 | 8 | 13 | 5 | .. | 32 | 2 | 5 | 4 | 3 | .... | 6 | 2 | 1 | 5 | 5 | 7 | 6 | 10 | 10 | 6 | 17 | 2 |
| | Females | 118 | 7 | 12 | 10 | 12 | 7 | 3 | 8 | 6 | 11 | 11 | 14 | 17 | .. | 29 | 2 | 3 | 2 | 1 | 10 | 2 | 7 | 6 | 4 | 8 | 3 | 5 | 14 | 7 | 9 | 5 | 1 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Crawford | Total | 23 | 2 | 2 | ... | ... | 3 | ... | 3 | 3 | 5 | 1 | 1 | 2 | 1 | 8 | ... | 1 | 1 | 1 | ... | 1 | 1 | ... | ... | 1 | 3 | 1 | ... | 1 | 2 | 1 | 1 |
| | Males | 9 | ... | 1 | ... | ... | 1 | ... | 2 | ... | 2 | ... | 1 | 2 | .. | 2 | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... | ... | 2 | ... | ... | 1 | 1 | .. | ... |
| | Females | 14 | 2 | 1 | ... | ... | 2 | ... | 1 | 3 | 3 | 1 | ... | ... | 1 | 6 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | 1 | ... | .. | 1 | 1 | 1 |
| Delta | Total | 141 | 8 | 14 | 5 | 13 | 10 | 7 | 15 | 19 | 13 | 17 | 8 | 12 | .. | 69 | 1 | 5 | 7 | 11 | 3 | 6 | 6 | 5 | 6 | 8 | 1 | 1 | 6 | 1 | 2 | 2 | 1 |
| | Males | 88 | 7 | 8 | 4 | 6 | 4 | 3 | 8 | 11 | 9 | 12 | 6 | 10 | .. | 41 | ... | 4 | 2 | 9 | 3 | 5 | 4 | 4 | 2 | 7 | 1 | 1 | 2 | .. | 2 | 1 | ... |
| | Females | 52 | 1 | 6 | 1 | 7 | 6 | 4 | 7 | 8 | 4 | 5 | 1 | 2 | .. | 27 | 1 | 1 | 5 | 2 | ... | 1 | 2 | 1 | 4 | 1 | ... | ... | 4 | 1 | .. | 1 | 1 |
| | Unknown | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | .. | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | ... |
| Dickinson | Total | 194 | 15 | 12 | 16 | 20 | 7 | 10 | 14 | 30 | 20 | 17 | 17 | 16 | .. | 114 | 11 | 10 | 4 | 19 | 5 | 3 | 9 | 4 | 4 | 3 | 1 | 2 | 1 | .. | .. | 1 | 3 |
| | Males | 118 | 11 | 4 | 13 | 12 | 5 | 8 | 6 | 21 | 9 | 11 | 10 | 8 | .. | 67 | 6 | 6 | 2 | 11 | 4 | 2 | 7 | 3 | 4 | 2 | ... | 2 | ... | .. | .. | .. | 2 |
| | Females | 76 | 4 | 8 | 3 | 8 | 2 | 2 | 8 | 9 | 11 | 6 | 7 | 8 | .. | 47 | 5 | 4 | 2 | 8 | 1 | 1 | 2 | 1 | ... | 1 | 1 | ... | 1 | .. | .. | 1 | 1 |
| Eaton | Total | 288 | 37 | 19 | 25 | 38 | 28 | 18 | 25 | 14 | 22 | 16 | 22 | 28 | 1 | 33 | 7 | 5 | 7 | 12 | 13 | 10 | 16 | 6 | 8 | 15 | 15 | 22 | 19 | 17 | 32 | 42 | 9 |
| | Males | 148 | 17 | 5 | 15 | 19 | 12 | 8 | 13 | 10 | 13 | 8 | 12 | 16 | .. | 14 | 3 | 3 | 3 | 4 | 2 | 6 | 6 | 3 | 5 | 6 | 4 | 18 | 9 | 11 | 23 | 28 | 5 |
| | Females | 140 | 20 | 14 | 10 | 19 | 11 | 10 | 12 | 4 | 9 | 8 | 10 | 12 | 1 | 19 | 4 | 2 | 4 | 8 | 11 | 4 | 10 | 3 | 3 | 9 | 11 | 9 | 10 | 6 | 9 | 14 | 4 |
| Emmet | Total | 64 | 7 | 9 | 1 | 6 | 5 | 4 | 1 | 6 | 8 | 6 | 8 | 3 | .. | 18 | 3 | 5 | 4 | 3 | 1 | 2 | 2 | 6 | ... | ... | 2 | 3 | 3 | 4 | 2 | 5 | 1 |
| | Males | 30 | 3 | 4 | ... | 5 | 2 | 2 | ... | 3 | 5 | 3 | 2 | 1 | .. | 9 | 2 | 3 | 2 | 1 | ... | 1 | 1 | 2 | ... | ... | ... | 3 | 3 | .. | .. | 3 | ... |
| | Females | 34 | 4 | 5 | 1 | 1 | 3 | 2 | 1 | 3 | 3 | 3 | 6 | 2 | .. | 9 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 4 | ... | ... | 2 | ... | ... | 4 | 2 | 2 | 1 |
| Genesee | Total | 407 | 42 | 36 | 25 | 45 | 30 | 20 | 26 | 23 | 32 | 49 | 35 | 44 | .. | 81 | 15 | 15 | 16 | 15 | 15 | 12 | 13 | 9 | 19 | 18 | 12 | 21 | 28 | 27 | 33 | 54 | 4 |
| | Males | 209 | 24 | 19 | 12 | 25 | 12 | 9 | 16 | 8 | 15 | 27 | 17 | 25 | .. | 45 | 12 | 4 | 11 | 6 | 8 | 3 | 2 | 5 | 9 | 9 | 7 | 9 | 14 | 19 | 15 | 28 | 3 |
| | Females | 197 | 18 | 17 | 13 | 20 | 18 | 11 | 10 | 14 | 17 | 22 | 18 | 19 | .. | 35 | 3 | 11 | 5 | 9 | 7 | 9 | 11 | 4 | 10 | 9 | 5 | 12 | 14 | 8 | 18 | 26 | 1 |
| | Unknown | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | .. | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | ... |
| Gladwin | Total | 13 | 1 | ... | 2 | 3 | ... | ... | ... | 1 | 1 | ... | 1 | 3 | 1 | 4 | ... | ... | ... | 1 | ... | 2 | ... | ... | 2 | ... | ... | ... | 2 | .. | .. | 2 | ... |
| | Males | 7 | ... | ... | 2 | 1 | ... | ... | ... | ... | 1 | ... | ... | 2 | 1 | 2 | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | ... | ... | ... | 1 | .. | .. | 1 | ... |
| | Females | 6 | 1 | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | 1 | 1 | .. | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | .. | .. | 1 | ... |
| Gogebic | Total | 456 | 35 | 24 | 23 | 28 | 24 | 31 | 29 | 67 | 47 | 76 | 46 | 25 | 1 | 193 | 12 | 3 | 7 | 28 | 27 | 27 | 8 | 13 | 4 | 9 | 4 | 5 | 3 | 2 | .. | 1 | 111 |
| | Males | 301 | 20 | 19 | 15 | 16 | 17 | 25 | 21 | 47 | 33 | 56 | 27 | 6 | .. | 111 | 8 | 1 | 4 | 21 | 20 | 23 | 6 | 8 | 4 | 9 | 3 | 4 | 1 | 1 | .. | .. | 77 |
| | Females | 138 | 6 | 5 | 7 | 8 | 7 | 6 | 8 | 20 | 14 | 19 | 15 | 17 | 1 | 79 | 4 | 1 | 3 | 7 | 7 | 4 | 2 | 5 | ... | ... | 1 | 1 | 2 | 1 | .. | 1 | 15 |
| | Unknown | 22 | 9 | ... | 1 | 5 | ... | ... | ... | ... | ... | 1 | 4 | 2 | .. | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | 19 |

**Table 54.**—CONTINUED.—*Deaths by counties, by sex, by months, and by ages, 1892.*

| Counties. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Gd. Traverse | Total | 196 | 7 | 14 | 8 | 11 | 11 | 12 | 10 | 8 | 11 | 19 | 15 | 10 | 39 | 2 | 2 | 3 | 2 | 13 | 6 | 8 | 7 | 10 | 11 | 3 | 9 | 3 | 4 | 5 | 6 | 3 |
| | Males | 78 | 6 | 10 | 3 | 4 | 7 | 8 | 7 | 2 | 6 | 12 | 8 | 5 | 24 | 1 | ---- | 1 | 2 | 3 | 3 | 6 | 3 | 8 | 7 | 2 | 6 | 2 | 2 | 2 | 5 | 1 |
| | Females | 56 | 1 | 4 | 5 | 7 | 4 | 4 | 3 | 6 | 5 | 6 | 6 | 5 | 13 | 1 | 2 | 2 | ---- | 10 | 3 | 2 | 4 | 2 | 4 | 1 | 3 | 1 | 2 | 3 | 1 | 2 |
| | Unknown | 2 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1 | 1 | ---- | 2 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Gratiot | Total | 188 | 10 | 15 | 12 | 13 | 16 | 13 | 18 | 22 | 23 | 18 | 13 | 15 | 44 | 6 | 7 | 16 | 10 | 9 | 6 | 7 | 2 | 5 | 8 | 9 | 8 | 11 | 12 | 12 | 12 | 1 |
| | Males | 96 | 4 | 8 | 3 | 6 | 6 | 7 | 10 | 13 | 15 | 7 | 8 | 9 | 29 | 5 | 5 | 6 | 3 | 5 | 1 | 1 | 1 | 3 | 2 | 5 | 4 | 6 | 6 | 8 | 5 | 1 |
| | Females | 91 | 6 | 7 | 9 | 6 | 10 | 6 | 8 | 9 | 8 | 11 | 5 | 6 | 14 | 1 | 2 | 10 | 7 | 4 | 5 | 6 | 1 | 5 | 6 | 4 | 4 | 5 | 6 | 4 | 7 | -- |
| | Unknown | 1 | ---- | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Hillsdale | Total | 328 | 37 | 32 | 22 | 30 | 26 | 24 | 20 | 31 | 24 | 30 | 24 | 22 | 1 | 41 | 4 | 8 | 9 | 9 | 7 | 12 | 10 | 10 | 16 | 21 | 16 | 30 | 24 | 32 | 32 | 37 | 5 |
| | Males | 180 | 19 | 19 | 11 | 16 | 20 | 11 | 12 | 14 | 13 | 15 | 20 | 10 | -- | 19 | 2 | 2 | 4 | 4 | 4 | 5 | 4 | 5 | 9 | 13 | 8 | 17 | 12 | 23 | 24 | 23 | 3 |
| | Females | 143 | 18 | 13 | 11 | 14 | 6 | 13 | 8 | 17 | 11 | 15 | 4 | 12 | 1 | 22 | 2 | 6 | 5 | 5 | 3 | 7 | 6 | 5 | 7 | 8 | 8 | 13 | 12 | 10 | 8 | 14 | 2 |
| Houghton | Total | 552 | 44 | 22 | 47 | 41 | 46 | 35 | 44 | 90 | 58 | 51 | 30 | 42 | 2 | 354 | 28 | 12 | 10 | 25 | 16 | 19 | 9 | 11 | 10 | 9 | 4 | 9 | 11 | 7 | 6 | 4 | 8 |
| | Males | 318 | 23 | 10 | 25 | 22 | 28 | 20 | 28 | 57 | 34 | 30 | 16 | 23 | 2 | 208 | 15 | 6 | 6 | 12 | 4 | 11 | 6 | 7 | 8 | 4 | 3 | 6 | 7 | 4 | 5 | 2 | 4 |
| | Females | 234 | 21 | 12 | 22 | 19 | 18 | 15 | 16 | 33 | 24 | 21 | 14 | 19 | -- | 146 | 13 | 6 | 4 | 13 | 12 | 8 | 3 | 4 | 2 | 5 | 1 | 3 | 4 | 3 | 1 | 2 | 4 |
| Huron | Total | 225 | 16 | 13 | 25 | 17 | 15 | 13 | 25 | 17 | 19 | 23 | 13 | 28 | 1 | 96 | 3 | 2 | 12 | 12 | 9 | 11 | 5 | 8 | 6 | 8 | 6 | 7 | 3 | 11 | 7 | 15 | 1 |
| | Males | 130 | 10 | 10 | 14 | 9 | 8 | 3 | 14 | 14 | 11 | 15 | 7 | 14 | 1 | 61 | 2 | 1 | 5 | 8 | 6 | 4 | 2 | 4 | 4 | 4 | 4 | 1 | 6 | 4 | 7 | 7 | 1 |
| | Females | 94 | 6 | 3 | 11 | 8 | 7 | 10 | 11 | 3 | 8 | 8 | 6 | 13 | -- | 34 | 1 | 1 | 7 | 4 | 3 | 7 | 3 | 4 | 2 | 4 | 2 | 6 | ---- | 7 | -- | 8 | -- |
| | Unknown | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1 | -- | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ingham | Total | 386 | 41 | 33 | 31 | 34 | 24 | 24 | 21 | 33 | 30 | 40 | 36 | 38 | 2 | 86 | 7 | 8 | 14 | 13 | 16 | 15 | 12 | 11 | 17 | 14 | 19 | 18 | 28 | 40 | 38 | 28 | 2 |
| | Males | 204 | 24 | 19 | 18 | 11 | 15 | 14 | 11 | 17 | 16 | 18 | 20 | 21 | | 51 | 5 | 6 | 6 | 6 | 1 | 8 | 4 | 8 | 11 | 9 | 7 | 10 | 16 | 27 | 21 | 13 | |
| | Females | 179 | 17 | 13 | 18 | 23 | 9 | 10 | 9 | 16 | 14 | 21 | 15 | 17 | 2 | 32 | 2 | 2 | 8 | 7 | 15 | 7 | 8 | 8 | 6 | 5 | 12 | 8 | 12 | 13 | 17 | 15 | 2 |
| | Unknown | 3 | | | | | | | 1 | | | 1 | 1 | | | 3 | | | | | | | | | | | | | | | | | |
| Ionia | Total | 265 | 22 | 21 | 25 | 20 | 18 | 17 | 18 | 26 | 23 | 25 | 22 | 28 | | 57 | 6 | 4 | 10 | 14 | 9 | 6 | 10 | 5 | 13 | 14 | 16 | 18 | 16 | 23 | 18 | 25 | 1 |
| | Males | 141 | 12 | 12 | 8 | 10 | 8 | 7 | 10 | 16 | 11 | 13 | 13 | 21 | | 35 | 4 | 2 | 2 | 5 | 4 | | 4 | 3 | 5 | 9 | 7 | 12 | 10 | 12 | 12 | 14 | |
| | Females | 123 | 10 | 9 | 17 | 10 | 10 | 9 | 8 | 10 | 12 | 12 | 9 | 7 | | 21 | 2 | 2 | 8 | 9 | 5 | 6 | 6 | 2 | 8 | 5 | 9 | 6 | 6 | 11 | 6 | 11 | 1 |
| | Unknown | 1 | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | | |
| Iosco | Total | 168 | 19 | 14 | 9 | 9 | 11 | 13 | 14 | 11 | 15 | 10 | 16 | 27 | | 72 | 14 | 7 | 6 | 7 | 7 | 7 | 9 | 5 | 3 | 3 | 4 | 5 | 6 | 4 | 2 | 1 | 6 |
| | Males | 94 | 13 | 11 | 7 | 5 | 5 | 5 | 7 | 5 | 8 | 7 | 9 | 12 | | 41 | 8 | 5 | 5 | 3 | 2 | 3 | 6 | 2 | 1 | 3 | 2 | 3 | 6 | 1 | 1 | 1 | 1 |
| | Females | 71 | 6 | 3 | 2 | 4 | 5 | 8 | 6 | 6 | 7 | 3 | 6 | 15 | | 30 | 6 | 2 | 1 | 4 | 5 | 4 | 3 | 3 | 2 | | 2 | 2 | | 3 | 1 | | 3 |
| | Unknown | 3 | | | | | 1 | | 1 | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | 2 |
| Iron | Total | 62 | 2 | 3 | 2 | 4 | 8 | 3 | 4 | 3 | 10 | 11 | 5 | 7 | | 30 | 4 | 3 | 1 | 4 | 1 | 4 | 2 | 2 | 1 | 1 | | | 1 | | | | 8 |
| | Males | 42 | 1 | 2 | 2 | 2 | 5 | 2 | 3 | 2 | 7 | 7 | 4 | 5 | | 18 | 3 | 2 | 1 | 3 | 1 | 3 | 2 | 2 | | 1 | | | 1 | | | | 5 |
| | Females | 19 | 1 | 1 | | 2 | 2 | 1 | 1 | 1 | 3 | 4 | 1 | 2 | | 11 | 1 | 1 | | 1 | | 1 | | | 1 | | | | | | | | 3 |
| | Unknown | 1 | | | | | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | | | | |
| Isabella | Total | 116 | 9 | 11 | 7 | 8 | 10 | 4 | 15 | 4 | 14 | 11 | 14 | 9 | | 45 | 2 | 3 | 9 | 4 | 8 | 3 | 2 | 4 | 4 | 4 | 5 | 2 | 3 | 8 | 5 | 1 | 4 |
| | Males | 63 | 6 | 5 | 5 | 6 | 6 | 3 | 8 | 1 | 7 | 6 | 6 | 4 | | 24 | 1 | 3 | 4 | 2 | 3 | 2 | 1 | 1 | 2 | 3 | 1 | 2 | 1 | 5 | 4 | 1 | 3 |
| | Females | 53 | 3 | 6 | 2 | 2 | 4 | 1 | 7 | 3 | 7 | 5 | 8 | 5 | | 21 | 1 | | 5 | 2 | 5 | 1 | 1 | 3 | 2 | 1 | 4 | | 2 | 2 | 1 | | 1 |
| Jackson | Total | 490 | 64 | 47 | 44 | 32 | 34 | 25 | 34 | 40 | 40 | 48 | 43 | 39 | | 106 | 24 | 11 | 12 | 26 | 14 | 17 | 18 | 16 | 20 | 14 | 22 | 27 | 38 | 27 | 40 | 50 | 8 |
| | Males | 255 | 28 | 26 | 22 | 21 | 18 | 9 | 19 | 23 | 24 | 25 | 17 | 23 | | 59 | 10 | 7 | 6 | 7 | 5 | 9 | 7 | 9 | 11 | 6 | 11 | 15 | 25 | 12 | 25 | 26 | 5 |
| | Females | 229 | 35 | 20 | 22 | 11 | 16 | 16 | 14 | 16 | 16 | 22 | 25 | 16 | | 43 | 14 | 4 | 6 | 19 | 9 | 8 | 11 | 7 | 9 | 8 | 11 | 12 | 13 | 15 | 15 | 24 | 1 |
| | Unknown | 6 | 1 | 1 | | | | | 1 | 1 | | 1 | 1 | | | 4 | | | | | | | | | | | | | | | | | 2 |
| Kalamazoo | Total | 433 | 51 | 36 | 47 | 27 | 47 | 32 | 30 | 40 | 32 | 30 | 21 | 39 | 1 | 65 | 9 | 6 | 12 | 17 | 15 | 19 | 22 | 16 | 19 | 16 | 30 | 28 | 40 | 39 | 34 | 42 | 4 |
| | Males | 219 | 21 | 17 | 18 | 17 | 22 | 16 | 14 | 20 | 18 | 17 | 14 | 25 | | 36 | 4 | 2 | 5 | 9 | 5 | 12 | 9 | 5 | 8 | 10 | 21 | 15 | 11 | 22 | 21 | 22 | 2 |
| | Females | 213 | 30 | 19 | 29 | 10 | 25 | 15 | 16 | 20 | 14 | 13 | 7 | 14 | 1 | 29 | 5 | 4 | 7 | 8 | 10 | 7 | 13 | 11 | 11 | 6 | 9 | 13 | 29 | 17 | 13 | 20 | 1 |
| | Unknown | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 1 |

**Table 54.** CONTINUED.—*Deaths by counties, by sex, by months, and by ages, 1892.*

| Counties. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Kalkaska | Total | 48 | 1 | 5 | 9 | 2 | 5 | 1 | 6 | 4 | 4 | 4 | 2 | 5 | 10 | 1 | 1 | 3 | 7 | 2 | — | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 |
| | Males | 19 | — | 2 | 3 | 1 | 2 | — | 4 | 1 | 1 | 2 | 1 | 2 | 5 | 1 | — | 2 | 2 | — | — | — | 1 | — | — | — | 1 | 1 | 1 | 3 | 2 | — |
| | Females | 29 | 1 | 3 | 6 | 1 | 3 | 1 | 2 | 3 | 3 | 2 | 1 | 3 | 5 | — | 1 | 1 | 5 | 2 | — | 2 | 1 | 1 | 2 | 2 | 1 | — | 2 | — | 1 | 3 |
| Kent | Total | 1,321 | 154 | 96 | 92 | 138 | 88 | 88 | 126 | 123 | 119 | 106 | 79 | 118 | 457 | 65 | 30 | 54 | 55 | 54 | 43 | 47 | 38 | 49 | 46 | 55 | 55 | 67 | 72 | 51 | 65 | 18 |
| | Males | 710 | 91 | 44 | 50 | 67 | 47 | 42 | 65 | 73 | 66 | 58 | 44 | 63 | 263 | 37 | 13 | 26 | 28 | 26 | 15 | 24 | 18 | 19 | 26 | 30 | 26 | 38 | 41 | 35 | 34 | 11 |
| | Females | 609 | 62 | 52 | 42 | 71 | 41 | 46 | 54 | 50 | 53 | 48 | 35 | 55 | 192 | 28 | 17 | 28 | 27 | 28 | 28 | 23 | 20 | 30 | 20 | 25 | 29 | 29 | 31 | 16 | 31 | 7 |
| | Unknown | 2 | 1 | — | — | — | — | — | 1 | — | — | — | — | — | 2 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Keweenaw | Total | 52 | 7 | 4 | 7 | 4 | 2 | 2 | 1 | 11 | 9 | 2 | 2 | 1 | 24 | 3 | 1 | 5 | — | 2 | 3 | — | 3 | — | — | 3 | 1 | 2 | 2 | 1 | 2 | — |
| | Males | 26 | 4 | 2 | 3 | 3 | — | 1 | — | 5 | 5 | 2 | 1 | — | 11 | — | — | 2 | — | 1 | 1 | — | 2 | — | — | 2 | 1 | 2 | 1 | 1 | 2 | — |
| | Females | 26 | 3 | 2 | 4 | 1 | 2 | 1 | 1 | 6 | 4 | — | 1 | 1 | 13 | 3 | 1 | 3 | — | 1 | 2 | — | 1 | — | — | 1 | — | — | 1 | — | — | — |
| Lake | Total | 28 | 2 | 1 | 1 | 7 | 1 | 1 | 1 | — | 2 | 3 | 6 | 3 | 9 | 2 | 2 | 2 | — | — | — | — | — | 2 | — | — | 2 | 2 | 2 | 1 | 4 | — |
| | Males | 17 | 2 | 1 | 1 | 3 | — | — | — | — | 2 | 1 | 4 | 3 | 5 | 1 | 1 | 1 | — | — | — | — | — | 1 | — | — | — | 2 | 1 | 1 | 4 | — |
| | Females | 11 | — | — | — | 4 | 1 | 1 | 1 | — | — | 2 | 2 | — | 4 | 1 | 1 | 1 | — | — | — | — | — | 1 | — | — | 2 | — | 1 | — | — | — |
| Lapeer | Total | 197 | 15 | 15 | 14 | 13 | 17 | 26 | 15 | 14 | 14 | 16 | 18 | 20 | 45 | 4 | 5 | 8 | 12 | 7 | 3 | 10 | 9 | 4 | 8 | 5 | 7 | 10 | 12 | 14 | 26 | 8 |
| | Males | 102 | 9 | 6 | 6 | 6 | 6 | 14 | 10 | 7 | 6 | 9 | 9 | 14 | 25 | 2 | 3 | 4 | 6 | 1 | — | 4 | 2 | 3 | 6 | 4 | 5 | 6 | 7 | 9 | 12 | 3 |
| | Females | 94 | 6 | 8 | 8 | 7 | 11 | 12 | 5 | 7 | 8 | 7 | 9 | 6 | 20 | 2 | 2 | 4 | 6 | 6 | 3 | 6 | 7 | 1 | 2 | 1 | 2 | 4 | 5 | 5 | 14 | 4 |
| | Unknown | 1 | — | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 |
| Leelanau | Total | 52 | 6 | 7 | 8 | 6 | 4 | 1 | 1 | 6 | 3 | 3 | 2 | 5 | 19 | 1 | — | 1 | 2 | 1 | 2 | — | 1 | 2 | 2 | 1 | 3 | 5 | 4 | 2 | 5 | 1 |
| | Males | 27 | 3 | 3 | 3 | 4 | 2 | 1 | — | 3 | 1 | 2 | 2 | 3 | 11 | 1 | — | 1 | 1 | — | 1 | — | 1 | 1 | 1 | — | 1 | 3 | 1 | — | 4 | — |
| | Females | 25 | 3 | 4 | 5 | 2 | 2 | — | 1 | 3 | 2 | 1 | — | 2 | 8 | — | — | — | 1 | 1 | 1 | — | — | 1 | 1 | 1 | 2 | 2 | 3 | 2 | 1 | 1 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lenawee | Total | 412 | 48 | 24 | 30 | 32 | 32 | 27 | 25 | 30 | 34 | 38 | 44 | 45 | 3 | 50 | 11 | 3 | 11 | 16 | 16 | 9 | 12 | 7 | 13 | 23 | 37 | 26 | 28 | 44 | 48 | 51 | 7 |
| | Males | 218 | 27 | 10 | 14 | 18 | 17 | 14 | 13 | 12 | 15 | 18 | 34 | 24 | 2 | 32 | 6 | 1 | 2 | 5 | 7 | 2 | 2 | 4 | 7 | 13 | 23 | 13 | 14 | 26 | 28 | 29 | 4 |
| | Females | 194 | 21 | 14 | 16 | 14 | 15 | 13 | 12 | 18 | 19 | 20 | 10 | 21 | 1 | 18 | 5 | 2 | 9 | 11 | 9 | 7 | 10 | 3 | 6 | 10 | 14 | 13 | 14 | 18 | 20 | 22 | 3 |
| Livingston | Total | 166 | 26 | 15 | 17 | 13 | 15 | 9 | 7 | 18 | 12 | 12 | 8 | 13 | 1 | 22 | 5 | 4 | 5 | 8 | 5 | 2 | 3 | 6 | 9 | 5 | 12 | 13 | 14 | 17 | 17 | 18 | 1 |
| | Males | 90 | 16 | 10 | 8 | 6 | 9 | 5 | 5 | 8 | 6 | 7 | 3 | 7 | .. | 10 | 1 | 2 | 2 | 3 | 2 | 1 | 1 | .. | 5 | 5 | 7 | 7 | 9 | 12 | 12 | 11 | .. |
| | Females | 76 | 10 | 5 | 9 | 7 | 6 | 4 | 2 | 10 | 6 | 5 | 5 | 6 | 1 | 12 | 4 | 2 | 3 | 5 | 3 | 1 | 2 | 6 | 4 | .. | 5 | 6 | 5 | 5 | 5 | 7 | 1 |
| Luce | Total | 24 | 2 | 1 | 1 | 3 | 2 | 2 | 1 | 3 | 1 | 1 | 3 | 3 | 1 | 16 | 1 | 1 | .. | .. | 1 | .. | 1 | .. | 1 | .. | .. | 1 | .. | 1 | .. | .. | 1 |
| | Males | 13 | .. | .. | 1 | 2 | .. | 1 | .. | 2 | 1 | 1 | 3 | 1 | 1 | 7 | .. | 1 | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | 1 | .. | 1 | .. | .. | 1 |
| | Females | 11 | 2 | 1 | .. | 1 | 2 | 1 | 1 | 1 | .. | .. | .. | 2 | .. | 9 | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mackinac | Total | 43 | 4 | 3 | 1 | 2 | 5 | .. | 1 | 3 | 8 | 4 | 5 | 4 | 3 | 19 | 7 | 1 | 2 | 2 | 4 | 1 | .. | 2 | 1 | .. | .. | 1 | 1 | .. | 1 | 1 | .. |
| | Males | 20 | 1 | 1 | 1 | 1 | 4 | .. | .. | 1 | 4 | .. | 3 | 3 | 1 | 11 | 2 | .. | 1 | 1 | 1 | .. | .. | 2 | .. | .. | .. | 1 | 1 | .. | .. | .. | .. |
| | Females | 23 | 3 | 2 | .. | 1 | 1 | .. | 1 | 2 | 4 | 4 | 2 | 1 | 2 | 8 | 5 | 1 | 1 | 1 | 3 | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 1 | .. |
| Macomb | Total | 335 | 31 | 25 | 30 | 32 | 21 | 29 | 22 | 28 | 24 | 24 | 27 | 42 | .. | 84 | 19 | 11 | 11 | 10 | 11 | 11 | 8 | 7 | 12 | 11 | 16 | 15 | 16 | 28 | 19 | 45 | 1 |
| | Males | 197 | 16 | 13 | 18 | 21 | 12 | 17 | 15 | 16 | 16 | 11 | 21 | 21 | .. | 56 | 14 | 5 | 4 | 4 | 4 | 6 | 2 | 5 | 7 | 5 | 9 | 12 | 10 | 17 | 9 | 27 | 1 |
| | Females | 138 | 15 | 12 | 12 | 11 | 9 | 12 | 7 | 12 | 8 | 13 | 6 | 21 | .. | 28 | 5 | 6 | 7 | 6 | 7 | 5 | 6 | 2 | 5 | 6 | 7 | 3 | 6 | 11 | 10 | 18 | .. |
| Manistee | Total | 204 | 15 | 19 | 11 | 22 | 14 | 14 | 21 | 19 | 18 | 18 | 20 | 13 | .. | 101 | 6 | 5 | 8 | 2 | 5 | 10 | 5 | 6 | 11 | 5 | 5 | 4 | 5 | 4 | 1 | 6 | 15 |
| | Males | 121 | 11 | 10 | 7 | 13 | 8 | 8 | 17 | 10 | 11 | 9 | 9 | 8 | .. | 61 | 3 | 4 | 5 | 1 | 3 | 3 | 3 | 2 | 7 | 5 | 4 | 1 | 2 | 4 | 1 | 4 | 8 |
| | Females | 83 | 4 | 9 | 4 | 9 | 6 | 6 | 4 | 9 | 7 | 9 | 11 | 5 | .. | 40 | 3 | 1 | 3 | 1 | 2 | 7 | 2 | 4 | 4 | .. | 1 | 3 | 3 | .. | .. | 2 | 7 |
| Manitou | Total | 2 | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. |
| | Males | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. |
| | Females | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Marquette | Total | 574 | 41 | 49 | 64 | 51 | 58 | 45 | 49 | 60 | 48 | 34 | 29 | 46 | .. | 318 | 30 | 7 | 22 | 24 | 26 | 32 | 22 | 9 | 15 | 8 | 12 | 14 | 13 | 7 | 4 | 7 | 4 |
| | Males | 346 | 26 | 31 | 33 | 32 | 33 | 26 | 38 | 31 | 31 | 18 | 19 | 28 | .. | 180 | 14 | 6 | 9 | 16 | 20 | 22 | 19 | 6 | 12 | 4 | 6 | 9 | 8 | 6 | 3 | 3 | 3 |
| | Females | 228 | 15 | 18 | 31 | 19 | 25 | 19 | 11 | 29 | 17 | 16 | 10 | 18 | .. | 138 | 16 | 1 | 13 | 8 | 6 | 10 | 3 | 3 | 3 | 4 | 6 | 5 | 5 | 1 | 1 | 4 | 1 |
| Mason | Total | 151 | 9 | 9 | 13 | 14 | 14 | 10 | 13 | 12 | 13 | 20 | 16 | 8 | .. | 65 | 3 | 6 | 6 | 4 | 9 | 4 | 6 | 4 | 3 | 6 | 9 | 4 | 4 | 4 | 3 | 7 | 4 |
| | Males | 93 | 6 | 7 | 10 | 9 | 10 | 7 | 5 | 9 | 7 | 14 | 7 | 2 | .. | 47 | 2 | 3 | 4 | .. | 5 | 3 | 4 | 1 | 2 | 5 | 7 | 1 | 2 | 1 | 1 | 3 | 2 |
| | Females | 58 | 3 | 2 | 3 | 5 | 4 | 3 | 8 | 3 | 6 | 6 | 9 | 6 | .. | 18 | 1 | 3 | 2 | 4 | 4 | 1 | 2 | 3 | 1 | 1 | 2 | 3 | 2 | 3 | 2 | 4 | 2 |

Table 54. Deaths by counties, by sex, by months, and by ages, 1892.

Months, 1892.

Ages in periods of years, 1892.

**Table 54.**—CONTINUED.—*Deaths by counties, by sex, by months, and by ages, 1892.*

| Counties. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Ottawa | Total | 251 | 60 | 37 | 36 | 25 | 19 | 16 | 25 | 16 | 34 | 29 | 28 | 23 | 3 | 113 | 12 | 7 | 8 | 12 | 15 | 10 | 15 | 11 | 9 | 11 | 12 | 12 | 28 | 17 | 28 | 25 | 6 |
| | Males | 173 | 29 | 16 | 14 | 10 | 9 | 10 | 11 | 11 | 20 | 18 | 15 | 9 | 1 | 67 | 3 | 4 | 5 | 5 | 5 | 6 | 4 | 6 | 2 | 8 | 4 | 4 | 15 | 5 | 15 | 12 | 3 |
| | Females | 174 | 31 | 21 | 22 | 15 | 10 | 6 | 13 | 5 | 13 | 11 | 12 | 14 | 1 | 43 | 9 | 3 | 3 | 7 | 10 | 4 | 11 | 5 | 7 | 3 | 8 | 8 | 13 | 12 | 13 | 13 | 2 |
| | Unknown | 4 | --- | --- | --- | --- | --- | --- | 1 | --- | 1 | --- | 1 | --- | 1 | 3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 |
| Presque Isle | Total | 32 | --- | 2 | --- | 1 | 8 | 2 | 3 | 6 | 2 | 2 | 1 | 5 | --- | 15 | 2 | --- | 2 | 1 | --- | --- | 2 | 1 | --- | 1 | 1 | 2 | 1 | 1 | 1 | 2 | --- |
| | Males | 13 | --- | 1 | --- | --- | 3 | 1 | 2 | 1 | 2 | 1 | --- | 2 | --- | 5 | 1 | --- | 1 | 1 | --- | --- | --- | --- | --- | 1 | --- | 1 | 1 | --- | 1 | 1 | --- |
| | Females | 19 | --- | 1 | --- | 1 | 5 | 1 | 1 | 5 | --- | 1 | 1 | 3 | --- | 10 | 1 | --- | 1 | --- | --- | --- | 2 | 1 | --- | --- | 1 | 1 | --- | 1 | --- | 1 | --- |
| Roscommon | Total | 13 | --- | --- | --- | --- | 2 | 1 | 1 | 2 | 5 | 1 | --- | 1 | --- | 7 | 1 | --- | --- | 1 | --- | 2 | --- | --- | --- | --- | --- | --- | --- | 1 | 1 | --- | --- |
| | Males | 9 | --- | --- | --- | --- | 1 | 1 | 1 | --- | 5 | --- | --- | 1 | --- | 4 | 1 | --- | --- | --- | --- | 2 | --- | --- | --- | --- | --- | --- | --- | 1 | 1 | --- | --- |
| | Females | 4 | --- | --- | --- | --- | 1 | --- | --- | 2 | --- | 1 | --- | --- | --- | 3 | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Saginaw | Total | 1,087 | 155 | 92 | 88 | 83 | 79 | 70 | 75 | 105 | 79 | 78 | 107 | 76 | --- | 405 | 53 | 28 | 48 | 51 | 48 | 36 | 30 | 32 | 33 | 42 | 39 | 51 | 43 | 54 | 36 | 54 | 4 |
| | Males | 571 | 82 | 58 | 55 | 41 | 38 | 33 | 42 | 52 | 40 | 43 | 51 | 36 | --- | 223 | 31 | 16 | 18 | 22 | 24 | 20 | 19 | 16 | 18 | 25 | 23 | 24 | 13 | 32 | 15 | 28 | 4 |
| | Females | 515 | 73 | 34 | 33 | 42 | 41 | 37 | 33 | 53 | 38 | 35 | 56 | 40 | --- | 181 | 22 | 12 | 30 | 29 | 24 | 16 | 11 | 16 | 15 | 17 | 16 | 27 | 30 | 22 | 21 | 26 | --- |
| | Unknown | 1 | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sanilac | Total | 287 | 23 | 24 | 19 | 27 | 21 | 25 | 22 | 18 | 17 | 29 | 25 | 37 | --- | 91 | 8 | 13 | 12 | 18 | 12 | 13 | 14 | 11 | 11 | 5 | 14 | 8 | 11 | 17 | 13 | 14 | 2 |
| | Males | 137 | 11 | 12 | 8 | 16 | 11 | 11 | 10 | 5 | 4 | 18 | 14 | 17 | --- | 50 | 4 | 4 | 4 | 6 | 6 | 5 | 6 | 1 | 4 | 4 | 9 | 4 | 8 | 11 | 6 | 4 | 1 |
| | Females | 148 | 11 | 12 | 11 | 11 | 10 | 14 | 12 | 12 | 13 | 11 | 11 | 20 | --- | 39 | 4 | 9 | 8 | 12 | 6 | 8 | 8 | 10 | 7 | 1 | 5 | 4 | 3 | 6 | 7 | 10 | 1 |
| | Unknown | 2 | 1 | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | 2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Schoolcraft | Total | 46 | 5 | 4 | 1 | 5 | 4 | 2 | 1 | 4 | 8 | 2 | 6 | 4 | --- | 22 | 1 | --- | 1 | 5 | 4 | 1 | 2 | 2 | 4 | --- | --- | --- | 1 | 1 | 2 | --- | --- |
| | Males | 27 | 2 | 3 | --- | 4 | --- | 2 | --- | 2 | 5 | 1 | 4 | 4 | --- | 11 | 1 | --- | --- | 3 | 2 | 1 | 2 | 1 | 3 | --- | --- | --- | --- | 1 | 2 | --- | --- |
| | Females | 19 | 3 | 1 | 1 | 1 | 4 | --- | 1 | 2 | 3 | 1 | 2 | --- | --- | 11 | --- | --- | 1 | 2 | 2 | --- | --- | 1 | 1 | --- | --- | --- | 1 | --- | --- | --- | --- | --- |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shiawassee | Total | 184 | 15 | 20 | 13 | 12 | 12 | 12 | 15 | 13 | 17 | 22 | 16 | 17 | .. | 43 | 6 | 7 | 4 | 9 | 13 | 8 | 8 | 6 | 10 | 9 | 5 | 14 | 11 | 11 | 4 | 11 | 5 |
| | Males | 104 | 7 | 10 | 9 | 10 | 9 | 9 | 8 | 7 | 9 | 5 | 12 | 9 | .. | 30 | 2 | 2 | 2 | 7 | 6 | 5 | 4 | 3 | 5 | 3 | 2 | 10 | 5 | 7 | 4 | 6 | 1 |
| | Females | 80 | 8 | 10 | 4 | 2 | 3 | 3 | 7 | 6 | 8 | 17 | 4 | 8 | .. | 13 | 4 | 5 | 2 | 2 | 7 | 8 | 4 | 3 | 5 | 6 | 3 | 4 | 6 | 4 | ... | 5 | 4 |
| St. Clair | Total | 575 | 52 | 44 | 46 | 39 | 50 | 37 | 45 | 66 | 56 | 59 | 47 | 34 | .. | 158 | 33 | 19 | 30 | 37 | 35 | 28 | 15 | 17 | 21 | 17 | 19 | 21 | 32 | 23 | 21 | 38 | 11 |
| | Males | 297 | 35 | 19 | 26 | 18 | 24 | 23 | 27 | 37 | 27 | 28 | 19 | 14 | .. | 83 | 17 | 10 | 13 | 22 | 10 | 14 | 6 | 11 | 7 | 11 | 10 | 12 | 18 | 15 | 12 | 21 | 5 |
| | Females | 278 | 17 | 25 | 20 | 21 | 26 | 14 | 18 | 29 | 29 | 31 | 28 | 20 | .. | 75 | 16 | 9 | 17 | 15 | 25 | 14 | 9 | 6 | 14 | 6 | 9 | 9 | 14 | 8 | 9 | 17 | 6 |
| St. Joseph | Total | 315 | 48 | 32 | 25 | 28 | 21 | 25 | 15 | 30 | 21 | 26 | 23 | 21 | .. | 52 | 1 | 5 | 9 | 11 | 9 | 13 | 12 | 5 | 9 | 14 | 21 | 19 | 31 | 31 | 38 | 34 | 1 |
| | Males | 145 | 25 | 15 | 12 | 13 | 6 | 13 | 10 | 12 | 10 | 13 | 5 | 11 | .. | 24 | 1 | 3 | 4 | 7 | 4 | 6 | 7 | 1 | 2 | 7 | 7 | 6 | 21 | 15 | 17 | 13 | ... |
| | Females | 170 | 23 | 17 | 13 | 15 | 15 | 12 | 5 | 18 | 11 | 13 | 18 | 10 | .. | 28 | ... | 2 | 5 | 4 | 5 | 7 | 5 | 4 | 7 | 7 | 14 | 13 | 10 | 16 | 21 | 21 | 1 |
| Tuscola | Total | 219 | 14 | 9 | 27 | 18 | 15 | 11 | 22 | 14 | 19 | 23 | 25 | 24 | 3 | 59 | 5 | 4 | 8 | 14 | 12 | 5 | 9 | 9 | 10 | 4 | 6 | 11 | 9 | 16 | 13 | 12 | 13 |
| | Males | 107 | 6 | 4 | 14 | 9 | 6 | 6 | 7 | 6 | 7 | 13 | 13 | 14 | 2 | 32 | 5 | 3 | 2 | 7 | 2 | 1 | 2 | 4 | 4 | ... | 4 | 5 | 6 | 10 | 8 | 8 | 4 |
| | Females | 108 | 8 | 5 | 13 | 4 | 9 | 4 | 15 | 8 | 11 | 10 | 11 | 9 | 1 | 27 | ... | 1 | 6 | 7 | 10 | 4 | 7 | 5 | 6 | 4 | 2 | 6 | 3 | 6 | 5 | 4 | 5 |
| | Unknown | 4 | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | 1 | 1 | .. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 |
| Van Buren | Total | 286 | 38 | 17 | 30 | 22 | 19 | 22 | 18 | 17 | 20 | 31 | 17 | 35 | .. | 77 | 2 | 4 | 7 | 8 | 16 | 8 | 10 | 9 | 10 | 10 | 12 | 23 | 20 | 18 | 24 | 25 | 3 |
| | Males | 155 | 16 | 11 | 16 | 13 | 11 | 10 | 12 | 9 | 13 | 14 | 10 | 20 | .. | 39 | 2 | 3 | 2 | 4 | 7 | 4 | 5 | 3 | 5 | 5 | 6 | 13 | 15 | 9 | 18 | 15 | ... |
| | Females | 128 | 21 | 6 | 13 | 9 | 8 | 12 | 6 | 8 | 7 | 17 | 7 | 14 | .. | 35 | ... | 1 | 5 | 4 | 9 | 4 | 5 | 6 | 5 | 5 | 6 | 10 | 5 | 9 | 6 | 10 | 3 |
| | Unknown | 3 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .. | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Washtenaw | Total | 436 | 69 | 40 | 38 | 41 | 40 | 23 | 24 | 20 | 22 | 40 | 32 | 45 | 2 | 66 | 16 | 12 | 13 | 14 | 16 | 22 | 12 | 14 | 17 | 14 | 23 | 34 | 31 | 39 | 36 | 50 | 7 |
| | Males | 233 | 28 | 23 | 20 | 20 | 22 | 11 | 13 | 13 | 16 | 21 | 19 | 26 | 1 | 47 | 11 | 5 | 8 | 2 | 8 | 8 | 5 | 7 | 9 | 7 | 12 | 17 | 19 | 21 | 19 | 24 | 4 |
| | Females | 202 | 40 | 17 | 18 | 21 | 18 | 12 | 11 | 7 | 6 | 19 | 13 | 19 | 1 | 18 | 5 | 7 | 5 | 12 | 8 | 14 | 7 | 7 | 8 | 7 | 11 | 17 | 12 | 18 | 17 | 26 | 3 |
| | Unknown | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Wayne | Total | 3,722 | 306 | 263 | 307 | 340 | 330 | 281 | 393 | 348 | 254 | 277 | 292 | 328 | 3 | 1602 | 258 | 87 | 114 | 164 | 166 | 154 | 131 | 99 | 112 | 97 | 109 | 124 | 147 | 125 | 96 | 113 | 24 |
| | Males | 2,067 | 163 | 134 | 182 | 186 | 182 | 174 | 215 | 193 | 144 | 149 | 167 | 176 | 2 | 891 | 138 | 45 | 60 | 87 | 96 | 87 | 66 | 53 | 70 | 54 | 76 | 72 | 83 | 71 | 50 | 51 | 17 |
| | Females | 1,647 | 143 | 129 | 125 | 152 | 148 | 106 | 177 | 154 | 108 | 128 | 125 | 151 | 1 | 703 | 120 | 42 | 54 | 77 | 70 | 67 | 65 | 46 | 42 | 43 | 33 | 52 | 64 | 54 | 46 | 62 | 7 |
| | Unknown | 8 | ... | ... | ... | 2 | ... | 1 | 1 | 1 | 2 | ... | ... | 1 | .. | 8 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Wexford | Total | 91 | 11 | 5 | 5 | 3 | 2 | 9 | 7 | 13 | 10 | 10 | 7 | 8 | 1 | 46 | 1 | 1 | 4 | 2 | 2 | 4 | 2 | 2 | 3 | 1 | 6 | 8 | 2 | 2 | 1 | 3 | 1 |
| | Males | 57 | 7 | 2 | 3 | 1 | 1 | 5 | 5 | 9 | 8 | 7 | 3 | 5 | 1 | 27 | 1 | 1 | 2 | 1 | 1 | 3 | 1 | 1 | 3 | 1 | 3 | 5 | 1 | 2 | 1 | 2 | 1 |
| | Females | 34 | 4 | 3 | 2 | 2 | 1 | 4 | 2 | 4 | 2 | 3 | 4 | 3 | .. | 19 | ... | ... | 2 | 1 | 1 | 1 | 1 | 1 | ... | ... | 3 | 3 | 1 | ... | ... | 1 | ... |

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**Table 55.**—*Exhibiting, by sex and by age, in periods of years, the number of persons returned as having died in Michigan during the year 1892. (Still-births included.)*

| Ages in periods of years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| All ages | Total | 21,729 | 2,152 | 1,687 | 1,734 | 1,879 | 1,700 | 1,481 | 1,678 | 1,942 | 1,802 | 1,892 | 1,788 | 1,949 | 45 |
| | Males | 11,837 | 1,148 | 906 | 944 | 997 | 909 | 817 | 962 | 1,059 | 999 | 1,033 | 990 | 1,051 | 22 |
| | Females | 9,809 | 990 | 777 | 786 | 873 | 788 | 657 | 710 | 879 | 797 | 854 | 785 | 891 | 22 |
| | Unknown | 83 | 14 | 4 | 4 | 9 | 3 | 7 | 6 | 4 | 6 | 5 | 13 | 7 | 1 |
| Still-births | Total | 1,014 | 82 | 74 | 90 | 86 | 83 | 85 | 82 | 95 | 72 | 72 | 79 | 113 | 1 |
| | Males | 597 | 43 | 42 | 51 | 56 | 46 | 48 | 52 | 62 | 44 | 46 | 44 | 63 | --- |
| | Females | 374 | 36 | 30 | 36 | 27 | 35 | 32 | 28 | 29 | 23 | 24 | 28 | 46 | --- |
| | Unknown | 43 | 3 | 2 | 3 | 3 | 2 | 5 | 2 | 4 | 5 | 2 | 7 | 4 | 1 |
| Under 1 * | Total | 4,090 | 304 | 261 | 303 | 306 | 289 | 236 | 369 | 565 | 458 | 358 | 311 | 325 | 5 |
| | Males | 2,321 | 176 | 152 | 173 | 171 | 163 | 148 | 213 | 306 | 267 | 198 | 176 | 176 | 2 |
| | Females | 1,760 | 126 | 109 | 129 | 133 | 126 | 88 | 154 | 259 | 191 | 159 | 134 | 149 | 3 |
| | Unknown | 9 | 2 | ------ | 1 | 2 | --- | ------ | 2 | ------ | ------ | 1 | 1 | ------ | --- |
| Under 5 * | Total | 6,281 | 486 | 418 | 479 | 525 | 471 | 377 | 550 | 771 | 659 | 530 | 483 | 521 | 11 |
| | Males | 3,499 | 267 | 229 | 281 | 277 | 247 | 236 | 314 | 409 | 376 | 298 | 274 | 286 | 5 |
| | Females | 2,772 | 216 | 189 | 197 | 246 | 224 | 141 | 234 | 362 | 283 | 231 | 208 | 235 | 6 |
| | Unknown | 10 | 3 | ------ | 1 | 2 | ------ | ------ | 2 | ------ | ------ | 1 | 1 | ------ | --- |
| *Under 1* † | *Total* | *5,104* | *386* | *335* | *393* | *392* | *372* | *321* | *451* | *660* | *530* | *430* | *390* | *438* | *6* |
| | *Males* | *2,918* | *219* | *194* | *224* | *227* | *209* | *196* | *265* | *368* | *311* | *244* | *220* | *239* | *2* |
| | *Females* | *2,134* | *162* | *139* | *165* | *160* | *161* | *120* | *182* | *288* | *214* | *183* | *162* | *195* | *3* |
| | *Unknown* | *52* | *5* | *2* | *4* | *5* | *2* | *5* | *4* | *4* | *5* | *3* | *8* | *4* | *1* |
| *Under 5* † | *Total* | *7,295* | *568* | *492* | *569* | *611* | *554* | *462* | *632* | *866* | *731* | *602* | *562* | *634* | *12* |
| | *Males* | *4,096* | *310* | *271* | *332* | *333* | *293* | *284* | *366* | *471* | *420* | *344* | *318* | *349* | *5* |
| | *Females* | *3,146* | *252* | *219* | *233* | *273* | *259* | *173* | *262* | *391* | *306* | *255* | *236* | *281* | *6* |
| | *Unknown* | *53* | *6* | *2* | *4* | *5* | *2* | *5* | *4* | *4* | *5* | *3* | *8* | *4* | *1* |
| 5 to 10 | Total | 967 | 55 | 60 | 74 | 97 | 81 | 81 | 62 | 64 | 87 | 94 | 103 | 105 | 4 |
| | Males | 532 | 25 | 23 | 37 | 49 | 53 | 47 | 33 | 37 | 53 | 59 | 61 | 53 | 1 |
| | Females | 435 | 30 | 37 | 37 | 48 | 28 | 34 | 29 | 27 | 34 | 35 | 42 | 52 | 2 |
| 10 to 15 | Total | 526 | 27 | 35 | 42 | 47 | 50 | 27 | 43 | 43 | 40 | 55 | 63 | 54 | --- |
| | Males | 270 | 12 | 17 | 21 | 24 | 24 | 18 | 24 | 23 | 22 | 25 | 29 | 31 | --- |
| | Females | 256 | 15 | 18 | 21 | 23 | 26 | 9 | 19 | 20 | 18 | 30 | 34 | 23 | --- |
| 15 to 20 | Total | 770 | 49 | 57 | 62 | 64 | 88 | 68 | 65 | 69 | 60 | 72 | 56 | 57 | 3 |
| | Males | 367 | 21 | 31 | 22 | 29 | 43 | 24 | 29 | 33 | 39 | 36 | 29 | 29 | 2 |
| | Females | 403 | 28 | 26 | 40 | 35 | 45 | 44 | 36 | 36 | 21 | 36 | 27 | 28 | 1 |

* Still-births not included. † Still-births included.

**Table 55.**—CONTINUED.—*Deaths by periods of age, sex and months.*

| Ages in periods of years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| 20 to 25 | Total | 949 | 70 | 51 | 92 | 90 | 66 | 81 | 65 | 86 | 83 | 95 | 78 | 97 | .... |
| | Males | 466 | 36 | 28 | 36 | 42 | 31 | 40 | 36 | 39 | 45 | 46 | 38 | 49 | .... |
| | Females | 483 | 34 | 23 | 56 | 48 | 35 | 41 | 29 | 47 | 38 | 49 | 35 | 48 | .... |
| 25 to 30 | Total | 890 | 82 | 65 | 84 | 71 | 68 | 64 | 92 | 61 | 67 | 87 | 73 | 76 | .... |
| | Males | 413 | 38 | 26 | 42 | 29 | 33 | 31 | 42 | 28 | 29 | 41 | 40 | 34 | .... |
| | Females | 477 | 44 | 39 | 42 | 42 | 35 | 33 | 50 | 33 | 38 | 46 | 33 | 42 | .... |
| 30 to 35 | Total | 808 | 71 | 65 | 74 | 71 | 64 | 56 | 64 | 62 | 63 | 79 | 62 | 75 | 2 |
| | Males | 407 | 35 | 24 | 38 | 37 | 28 | 22 | 38 | 30 | 33 | 44 | 35 | 42 | 1 |
| | Females | 401 | 36 | 41 | 36 | 34 | 36 | 34 | 26 | 32 | 30 | 35 | 27 | 33 | 1 |
| 35 to 40 | Total | 725 | 85 | 51 | 59 | 58 | 62 | 46 | 35 | 52 | 63 | 81 | 66 | 66 | 1 |
| | Males | 356 | 44 | 25 | 30 | 18 | 32 | 20 | 21 | 30 | 28 | 43 | 32 | 33 | .... |
| | Females | 369 | 41 | 26 | 29 | 40 | 30 | 26 | 14 | 22 | 35 | 38 | 34 | 33 | 1 |
| 40 to 45 | Total | 628 | 62 | 60 | 46 | 46 | 51 | 54 | 57 | 51 | 39 | 51 | 49 | 62 | .... |
| | Males | 314 | 31 | 30 | 27 | 22 | 27 | 18 | 38 | 24 | 20 | 27 | 25 | 25 | .... |
| | Females | 314 | 31 | 30 | 19 | 24 | 24 | 36 | 19 | 27 | 19 | 24 | 24 | 37 | .... |
| 45 to 50 | Total | 723 | 66 | 65 | 57 | 63 | 70 | 49 | 55 | 57 | 47 | 57 | 72 | 65 | .... |
| | Males | 393 | 34 | 36 | 36 | 38 | 38 | 30 | 31 | 32 | 27 | 24 | 34 | 33 | .... |
| | Females | 330 | 32 | 29 | 21 | 25 | 32 | 19 | 24 | 25 | 20 | 23 | 38 | 32 | .... |
| 50 to 55 | Total | 726 | 89 | 71 | 56 | 55 | 60 | 50 | 53 | 54 | 44 | 65 | 62 | 65 | 2 |
| | Males | 415 | 52 | 39 | 33 | 35 | 34 | 29 | 36 | 24 | 29 | 37 | 31 | 35 | 1 |
| | Females | 311 | 37 | 32 | 23 | 20 | 26 | 21 | 17 | 30 | 15 | 28 | 31 | 30 | 1 |
| 55 to 60 | Total | 819 | 105 | 79 | 70 | 76 | 55 | 51 | 57 | 61 | 62 | 72 | 65 | 66 | .... |
| | Males | 471 | 60 | 44 | 43 | 49 | 31 | 29 | 29 | 36 | 32 | 37 | 41 | 40 | .... |
| | Females | 348 | 45 | 35 | 27 | 27 | 24 | 22 | 28 | 25 | 30 | 35 | 24 | 26 | .... |
| 60 to 65 | Total | 942 | 118 | 80 | 84 | 75 | 71 | 64 | 62 | 76 | 65 | 79 | 82 | 84 | 2 |
| | Males | 510 | 58 | 44 | 42 | 42 | 36 | 41 | 33 | 49 | 34 | 37 | 47 | 45 | 2 |
| | Females | 432 | 60 | 36 | 42 | 33 | 35 | 23 | 29 | 27 | 31 | 42 | 35 | 39 | .... |
| 65 to 70 | Total | 1,074 | 150 | 100 | 79 | 106 | 93 | 98 | 66 | 68 | 96 | 70 | 87 | 90 | 1 |
| | Males | 604 | 76 | 60 | 46 | 61 | 50 | 41 | 48 | 43 | 52 | 35 | 50 | 42 | .... |
| | Females | 470 | 74 | 40 | 33 | 45 | 43 | 47 | 18 | 25 | 34 | 35 | 37 | 38 | 1 |
| 70 to 75 | Total | 1,126 | 140 | 112 | 54 | 91 | 92 | 80 | 84 | 86 | 68 | 85 | 91 | 101 | 2 |
| | Males | 658 | 78 | 73 | 44 | 53 | 54 | 51 | 49 | 50 | 42 | 48 | 51 | 59 | 1 |
| | Females | 468 | 62 | 34 | 40 | 38 | 28 | 29 | 35 | 36 | 46 | 37 | 40 | 42 | 1 |
| 75 to 80 | Total | 1,006 | 149 | 102 | 76 | 101 | 71 | 52 | 66 | 68 | 62 | 92 | 82 | 90 | .... |
| | Males | 592 | 56 | 49 | 41 | 60 | 43 | 32 | 35 | 40 | 33 | 63 | 51 | 39 | .... |
| | Females | 414 | 63 | 53 | 35 | 41 | 28 | 20 | 31 | 28 | 29 | 29 | 31 | 31 | .... |

**Table 55.—Concluded.—*Deaths by periods of age, sex and months.***

| Ages in periods of years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| 80 to 85 | Total | 779 | 118 | 68 | 72 | 66 | 45 | 51 | 62 | 50 | 54 | 51 | 55 | 86 | 1 |
| | Males | 441 | 75 | 36 | 41 | 33 | 20 | 24 | 38 | 28 | 29 | 34 | 33 | 49 | 1 |
| | Females | 338 | 43 | 32 | 31 | 33 | 25 | 27 | 24 | 22 | 25 | 17 | 22 | 37 | .... |
| 85 to 90 | Total | 379 | 69 | 33 | 23 | 30 | 26 | 21 | 23 | 27 | 22 | 35 | 31 | 39 | .... |
| | Males | 205 | 37 | 17 | 11 | 15 | 13 | 15 | 15 | 16 | 12 | 14 | 19 | 21 | .... |
| | Females | 174 | 32 | 16 | 12 | 15 | 13 | 6 | 8 | 11 | 10 | 21 | 12 | 18 | .... |
| 90 to 95 | Total | 140 | 22 | 11 | 14 | 12 | 11 | 6 | 4 | 10 | 5 | 17 | 15 | 12 | 1 |
| | Males | 76 | 12 | 8 | 10 | 5 | 7 | 3 | 3 | 3 | 3 | 7 | 6 | 8 | 1 |
| | Females | 64 | 10 | 3 | 4 | 7 | 4 | 3 | 1 | 7 | 2 | 10 | 9 | 4 | .... |
| 95 to 100 | Total | 28 | 7 | 1 | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 2 | 2 | 3 | 1 |
| | Males | 10 | 2 | 1 | 1 | 1 | .... | 1 | 1 | 1 | .... | .... | 2 | .... | .... |
| | Females | 18 | 5 | .... | 1 | 1 | 2 | 2 | .... | .... | 1 | 2 | .... | 3 | 1 |
| 100 and over | Total | 4 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | 1 | .... | .... |
| | Males | ..... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Females | 4 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | 1 | .... | .... |
| Unknown | Total | 425 | 50 | 29 | 15 | 47 | 30 | 27 | 30 | 35 | 32 | 49 | 36 | 32 | 13 |
| | Males | 241 | 26 | 19 | 11 | 22 | 19 | 17 | 17 | 22 | 17 | 32 | 18 | 15 | 6 |
| | Females | 154 | 16 | 8 | 4 | 21 | 10 | 8 | 11 | 13 | 14 | 15 | 13 | 14 | 7 |
| | Unknown | 30 | 8 | 2 | .... | 4 | 1 | 2 | 2 | .... | 1 | 2 | 5 | 3 | .... |

Tables 55 and 56 give the facts in detail in regard to the number of persons of each sex who died at all ages during each month of the year 1892. Table 55 is condensed from Table 56, and states the ages in periods of five years. Table 56 gives the number for each year separately, and also the number of deaths at each month of age for children dying under the age of one year. These tables as printed in the present report differ from those previously published in that the number of still-births is separately stated, and the number of deaths under one year of age, and also under five years of age, are stated both inclusive and exclusive of still-births. The former statement is made in order that the data may be readily comparable with former reports; the latter, because for many purposes it is important to eliminate still-births, as, when included, they unduly increase the number of deaths for the first month and for the first year of age as compared with those of subsequent years. The death-rates of children born alive are the important points of consideration in discussing infant mortality; their variations at different ages serve not only to mark the dangerous periods of development, but suggest the necessity of special study of the management of infants and the treatment of the diseases to which they are especially liable at those ages, and thus may bring about a marked lowering of this special class of mortality. The introduction of still-births into this class of deaths adds a large number of deaths dependent on entirely different causes for the most part, and not subject to amelioration by the same sanitary and therapeutic measures.

**able 56.**—*Exhibiting, by sex and by months, the number returned as having died in Michigan during the year 1892 at each and every age, the age stated in twelfths of a year for those under one year, and in years for those over one year of age. (Still-births included.)*

| es in years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| ages | Total | 21,729 | 2,152 | 1,687 | 1,784 | 1,879 | 1,700 | 1,481 | 1,678 | 1,942 | 1,802 | 1,892 | 1,788 | 1,949 | 45 |
| | Males | 11,837 | 1,148 | 906 | 944 | 997 | 909 | 817 | 962 | 1,059 | 999 | 1,033 | 990 | 1,051 | 22 |
| | Females | 9,809 | 990 | 777 | 786 | 873 | 788 | 657 | 710 | 879 | 797 | 854 | 785 | 891 | 22 |
| | Unknown | 83 | 14 | 4 | 4 | 9 | 3 | 7 | 6 | 4 | 6 | 5 | 13 | 7 | 1 |
| | Total | 1,014 | 82 | 74 | 90 | 86 | 83 | 85 | 82 | 95 | 72 | 72 | 79 | 113 | 1 |
| ll-births | Males | 597 | 43 | 42 | 51 | 56 | 46 | 48 | 52 | 62 | 44 | 46 | 44 | 63 | ---- |
| | Females | 374 | 36 | 30 | 36 | 27 | 35 | 32 | 28 | 29 | 23 | 24 | 28 | 46 | ---- |
| | Unknown | 43 | 3 | 2 | 3 | 3 | 2 | 5 | 2 | 4 | 5 | 2 | 7 | 4 | 1 |
| | Total | 1,342 | 113 | 96 | 129 | 105 | 108 | 97 | 92 | 134 | 118 | 108 | 108 | 131 | 3 |
| der 1-12* | Males | 789 | 67 | 62 | 68 | 61 | 61 | 64 | 61 | 83 | 70 | 58 | 59 | 73 | 2 |
| | Females | 547 | 45 | 34 | 61 | 43 | 47 | 33 | 29 | 51 | 48 | 49 | 48 | 58 | 1 |
| | Unknown | 6 | 1 | ---- | ---- | 1 | ---- | ---- | 2 | ---- | ---- | 1 | 1 | ---- | ---- |
| | *Total* | *2,356* | *195* | *170* | *219* | *191* | *191* | *182* | *174* | *229* | *190* | *180* | *187* | *244* | *4* |
| der 1-12† | *Males* | *1,386* | *110* | *104* | *119* | *117* | *107* | *112* | *113* | *145* | *114* | *104* | *103* | *136* | *2* |
| | *Females* | *921* | *81* | *64* | *97* | *70* | *82* | *65* | *57* | *80* | *71* | *73* | *76* | *104* | *1* |
| | *Unknown* | *49* | *4* | *2* | *3* | *4* | *2* | *5* | *4* | *4* | *5* | *3* | *8* | *4* | *1* |
| | Total | 426 | 29 | 23 | 36 | 27 | 35 | 33 | 34 | 41 | 51 | 44 | 41 | 32 | ---- |
| | Males | 249 | 18 | 11 | 21 | 16 | 17 | 19 | 24 | 17 | 35 | 24 | 27 | 20 | ---- |
| | Females | 176 | 11 | 12 | 15 | 10 | 18 | 14 | 10 | 24 | 16 | 20 | 14 | 12 | ---- |
| | Unknown | 1 | ---- | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| | Total | 365 | 27 | 6 | 24 | 30 | 32 | 21 | 31 | 63 | 40 | 31 | 26 | 34 | ---- |
| | Males | 221 | 16 | 4 | 14 | 12 | 23 | 15 | 19 | 39 | 25 | 22 | 15 | 17 | ---- |
| | Females | 144 | 11 | 2 | 10 | 18 | 9 | 6 | 12 | 24 | 15 | 9 | 11 | 17 | ---- |
| | Total | 343 | 21 | 19 | 14 | 20 | 29 | 14 | 36 | 53 | 48 | 30 | 28 | 31 | ---- |
| | Males | 187 | 15 | 12 | 9 | 10 | 17 | 5 | 20 | 21 | 26 | 17 | 20 | 15 | ---- |
| | Females | 156 | 6 | 7 | 5 | 10 | 12 | 9 | 16 | 32 | 22 | 13 | 8 | 16 | ---- |
| | Total | 273 | 13 | 19 | 22 | 15 | 11 | 10 | 32 | 51 | 33 | 32 | 25 | 10 | ---- |
| | Males | 155 | 7 | 14 | 14 | 8 | 5 | 8 | 15 | 27 | 15 | 23 | 14 | 5 | ---- |
| | Females | 117 | 6 | 5 | 7 | 7 | 6 | 2 | 17 | 24 | 18 | 9 | 11 | 5 | ---- |
| | Unknown | 1 | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| | Total | 227 | 23 | 16 | 11 | 13 | 10 | 8 | 27 | 39 | 34 | 18 | 13 | 13 | 2 |
| | Males | 134 | 15 | 6 | 8 | 10 | 7 | 7 | 14 | 19 | 25 | 9 | 6 | 8 | ---- |
| | Females | 93 | 8 | 10 | 3 | 3 | 3 | 1 | 13 | 20 | 9 | 9 | 7 | 5 | 2 |

* Still-births not included. † Still-births included.

**Table 56.**—CONTINUED.—*Deaths by ages, sex and months.*

| Ages in years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| 6-12 | Total | 250 | 16 | 18 | 14 | 14 | 13 | 11 | 32 | 44 | 33 | 19 | 17 | 19 | .... |
| | Males | 138 | 10 | 12 | 10 | 10 | 8 | 8 | 18 | 19 | 18 | 9 | 6 | 10 | .... |
| | Females | 112 | 6 | 6 | 4 | 4 | 5 | 3 | 14 | 25 | 15 | 10 | 11 | 9 | .... |
| 7-12 | Total | 189 | 13 | 18 | 8 | 13 | 8 | 7 | 18 | 31 | 30 | 15 | 16 | 12 | .... |
| | Males | 104 | 7 | 7 | 6 | 9 | 4 | 4 | 7 | 22 | 16 | 6 | 8 | 8 | .... |
| | Females | 85 | 6 | 11 | 2 | 4 | 4 | 3 | 11 | 9 | 14 | 9 | 8 | 4 | .... |
| 8-12 | Total | 181 | 16 | 13 | 9 | 20 | 13 | 5 | 18 | 34 | 19 | 12 | 9 | 13 | .... |
| | Males | 83 | 4 | 7 | 3 | 9 | 8 | 2 | 6 | 20 | 9 | 4 | 4 | 7 | .... |
| | Females | 98 | 12 | 6 | 6 | 11 | 5 | 3 | 12 | 14 | 10 | 8 | 5 | 6 | .... |
| 9-12 | Total | 169 | 10 | 10 | 12 | 23 | 7 | 11 | 21 | 20 | 12 | 21 | 9 | 13 | .... |
| | Males | 88 | 5 | 5 | 6 | 14 | 3 | 6 | 15 | 9 | 6 | 9 | 6 | 4 | .... |
| | Females | 81 | 5 | 5 | 6 | 9 | 4 | 5 | 6 | 11 | 6 | 12 | 3 | 9 | .... |
| 10-12 | Total | 164 | 13 | 11 | 16 | 12 | 9 | 7 | 16 | 33 | 13 | 13 | 13 | 8 | .... |
| | Males | 89 | 6 | 4 | 10 | 6 | 2 | 3 | 7 | 21 | 8 | 9 | 8 | 5 | .... |
| | Females | 74 | 6 | 7 | 6 | 6 | 7 | 4 | 9 | 12 | 5 | 4 | 5 | 3 | .... |
| | Unknown | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 11-12 | Total | 161 | 10 | 12 | 8 | 14 | 14 | 12 | 12 | 22 | 27 | 15 | 6 | 9 | .... |
| | Males | 84 | 6 | 8 | 4 | 6 | 8 | 7 | 7 | 9 | 14 | 8 | 3 | 4 | .... |
| | Females | 77 | 4 | 4 | 4 | 8 | 6 | 5 | 5 | 13 | 13 | 7 | 3 | 5 | .... |
| 1 | Total | 1,013 | 82 | 67 | 77 | 88 | 78 | 72 | 95 | 114 | 108 | 84 | 72 | 72 | 4 |
| | Males | 545 | 41 | 29 | 45 | 45 | 38 | 42 | 51 | 55 | 56 | 55 | 45 | 41 | 2 |
| | Females | 467 | 40 | 38 | 32 | 43 | 40 | 30 | 44 | 59 | 52 | 29 | 27 | 31 | 2 |
| | Unknown | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 2 | Total | 520 | 42 | 36 | 55 | 61 | 41 | 25 | 38 | 49 | 43 | 44 | 37 | 48 | 1 |
| | Males | 290 | 25 | 19 | 36 | 30 | 18 | 14 | 21 | 26 | 23 | 26 | 23 | 29 | .... |
| | Females | 230 | 17 | 17 | 19 | 31 | 23 | 11 | 17 | 23 | 20 | 18 | 14 | 19 | 1 |
| 3 | Total | 377 | 31 | 31 | 27 | 37 | 38 | 22 | 24 | 21 | 27 | 25 | 42 | 52 | .... |
| | Males | 202 | 17 | 17 | 16 | 16 | 20 | 17 | 15 | 11 | 15 | 10 | 21 | 27 | .... |
| | Females | 175 | 14 | 14 | 11 | 21 | 18 | 5 | 9 | 10 | 12 | 15 | 21 | 25 | .... |
| 4 | Total | 281 | 27 | 23 | 17 | 33 | 25 | 22 | 24 | 22 | 23 | 19 | 21 | 24 | 1 |
| | Males | 141 | 8 | 12 | 11 | 15 | 8 | 15 | 14 | 11 | 15 | 9 | 9 | 13 | 1 |
| | Females | 140 | 19 | 11 | 6 | 18 | 17 | 7 | 10 | 11 | 8 | 10 | 12 | 11 | .... |
| 5 | Total | 278 | 17 | 15 | 16 | 33 | 23 | 19 | 14 | 18 | 31 | 30 | 31 | 31 | .... |
| | Males | 164 | 7 | 5 | 9 | 16 | 16 | 14 | 8 | 9 | 19 | 20 | 21 | 20 | .... |
| | Females | 114 | 10 | 10 | 7 | 17 | 7 | 5 | 6 | 9 | 12 | 10 | 10 | 11 | .... |

**Table 56.**—CONTINUED.—*Deaths by ages, sex and months.*

| Age in years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| | Total | 212 | 16 | 13 | 19 | 24 | 17 | 22 | 10 | 15 | 14 | 16 | 22 | 21 | 3 |
| 6 | Males | 109 | 7 | 4 | 8 | 15 | 12 | 10 | 5 | 8 | 9 | 7 | 12 | 11 | 1 |
| | Females | 103 | 9 | 9 | 11 | 9 | 5 | 12 | 5 | 7 | 5 | 9 | 10 | 10 | 2 |
| | Total | 198 | 11 | 14 | 22 | 17 | 16 | 18 | 15 | 7 | 16 | 20 | 18 | 24 | .... |
| 7 | Males | 101 | 4 | 5 | 12 | 8 | 8 | 10 | 6 | 6 | 7 | 14 | 10 | 11 | .... |
| | Females | 97 | 7 | 9 | 10 | 9 | 8 | 8 | 9 | 1 | 9 | 6 | 8 | 13 | .... |
| | Total | 143 | 6 | 8 | 10 | 12 | 14 | 13 | 7 | 11 | 9 | 16 | 14 | 22 | 1 |
| 8 | Males | 81 | 3 | 6 | 6 | 5 | 10 | 9 | 4 | 6 | 6 | 10 | 6 | 9 | 1 |
| | Females | 62 | 3 | 2 | 4 | 7 | 4 | 4 | 3 | 5 | 3 | 6 | 8 | 13 | .... |
| | Total | 136 | 5 | 10 | 7 | 11 | 11 | 9 | 16 | 13 | 17 | 12 | 18 | 7 | .... |
| 9 | Males | 77 | 4 | 3 | 2 | 5 | 7 | 4 | 10 | 8 | 12 | 8 | 12 | 2 | .... |
| | Females | 59 | 1 | 7 | 5 | 6 | 4 | 5 | 6 | 5 | 5 | 4 | 6 | 5 | .... |
| | Total | 110 | 8 | 7 | 4 | 9 | 9 | 9 | 6 | 14 | 7 | 15 | 11 | 11 | .... |
| 10 | Males | 56 | 4 | 3 | 3 | 3 | 3 | 7 | 3 | 8 | 4 | 7 | 6 | 5 | .... |
| | Females | 54 | 4 | 4 | 1 | 6 | 6 | 2 | 3 | 6 | 3 | 8 | 5 | 6 | .... |
| | Total | 101 | 5 | 5 | 7 | 8 | 10 | 5 | 11 | 6 | 8 | 12 | 12 | 12 | .... |
| 11 | Males | 52 | 2 | 2 | 4 | 4 | 4 | 3 | 7 | 3 | 5 | 6 | 7 | 5 | .... |
| | Females | 49 | 3 | 3 | 3 | 4 | 6 | 2 | 4 | 3 | 3 | 6 | 5 | 7 | .... |
| | Total | 105 | 5 | 5 | 14 | 13 | 6 | 6 | 9 | 9 | 10 | 9 | 10 | 9 | .... |
| 12 | Males | 54 | 2 | 5 | 6 | 7 | 3 | 2 | 4 | 6 | 6 | 2 | 5 | 6 | .... |
| | Females | 51 | 3 | .... | 8 | 6 | 3 | 4 | 5 | 3 | 4 | 7 | 5 | 3 | .... |
| | Total | 110 | 4 | 11 | 7 | 6 | 16 | 2 | 12 | 7 | 11 | 11 | 12 | 11 | .... |
| 13 | Males | 58 | 2 | 5 | 2 | 4 | 11 | 2 | 8 | 4 | 5 | 4 | 5 | 6 | .... |
| | Females | 52 | 2 | 6 | 5 | 2 | 5 | .... | 4 | 3 | 6 | 7 | 7 | 5 | .... |
| | Total | 100 | 5 | 7 | 10 | 11 | 9 | 5 | 5 | 7 | 4 | 8 | 18 | 11 | .... |
| 14 | Males | 50 | 2 | 2 | 6 | 6 | 3 | 4 | 2 | 2 | 2 | 6 | 6 | 9 | .... |
| | Females | 50 | 3 | 5 | 4 | 5 | 6 | 1 | 3 | 5 | 2 | 2 | 12 | 2 | .... |
| | Total | 98 | 10 | 5 | 13 | 11 | 14 | 7 | 8 | 6 | 6 | 9 | 2 | 7 | ... |
| 15 | Males | 46 | 4 | 3 | 7 | 7 | 4 | 2 | 3 | 3 | 3 | 6 | 2 | 2 | .... |
| | Females | 52 | 6 | 2 | 6 | 4 | 10 | 5 | 5 | 3 | 3 | 3 | .... | 5 | .... |
| | Total | 142 | 6 | 11 | 11 | 12 | 19 | 12 | 14 | 9 | 12 | 12 | 17 | 6 | 1 |
| 16 | Males | 57 | 2 | 7 | 3 | 5 | 7 | 3 | 5 | 2 | 6 | 4 | 9 | 4 | .... |
| | Females | 85 | 4 | 4 | 8 | 7 | 12 | 9 | 9 | 7 | 6 | 8 | 8 | 2 | 1 |
| | Total | 130 | 11 | 11 | 4 | 7 | 17 | 15 | 8 | 12 | 11 | 11 | 13 | 10 | .... |
| 17 | Males | 66 | 6 | 6 | 1 | 1 | 10 | 5 | 6 | 7 | 8 | 7 | 5 | 4 | .... |
| | Females | 64 | 5 | 5 | 3 | 6 | 7 | 10 | 2 | 5 | 3 | 4 | 8 | 6 | .... |

**Table 56.**—CONTINUED.—*Deaths by ages, sex and months.*

| Age in years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| | Total | 189 | 10 | 13 | 21 | 16 | 19 | 14 | 21 | 18 | 12 | 17 | 8 | 19 | .... |
| 18 | Males | 85 | 6 | 5 | 5 | 8 | 11 | 5 | 9 | 7 | 8 | 7 | 4 | 10 | .... |
| | Females | 104 | 4 | 8 | 16 | 8 | 8 | 9 | 12 | 11 | 5 | 10 | 4 | 9 | .... |
| | Total | 211 | 12 | 17 | 13 | 18 | 19 | 20 | 14 | 24 | 12 | 23 | 16 | 15 | 2 |
| 19 | Males | 113 | 3 | 10 | 6 | 8 | 11 | 9 | 6 | 14 | 14 | 12 | 9 | 9 | 2 |
| | Females | 98 | 9 | 7 | 7 | 10 | 8 | 11 | 8 | 10 | 4 | 11 | 7 | 6 | .... |
| | Total | 174 | 14 | 6 | 24 | 22 | 11 | 16 | 15 | 8 | 12 | 10 | 18 | 18 | .... |
| 20 | Males | 83 | 8 | 3 | 9 | 15 | 5 | 7 | 8 | 1 | 6 | 4 | 8 | 9 | .... |
| | Females | 91 | 6 | 3 | 15 | 7 | 6 | 9 | 7 | 7 | 6 | 6 | 10 | 9 | .... |
| | Total | 180 | 11 | 9 | 14 | 18 | 11 | 16 | 15 | 16 | 19 | 15 | 19 | 17 | .... |
| 21 | Males | 85 | 5 | 5 | 6 | 9 | 5 | 9 | 8 | 8 | 9 | 6 | 9 | 6 | .... |
| | Females | 95 | 6 | 4 | 8 | 9 | 6 | 7 | 7 | 8 | 10 | 9 | 10 | 11 | .... |
| | Total | 202 | 15 | 15 | 23 | 15 | 12 | 16 | 14 | 20 | 15 | 24 | 12 | 21 | .... |
| 22 | Males | 105 | 7 | 7 | 10 | 5 | 7 | 8 | 8 | 9 | 9 | 14 | 8 | 13 | .... |
| | Females | 97 | 8 | 8 | 13 | 10 | 5 | 8 | 6 | 11 | 6 | 10 | 4 | 8 | .... |
| | Total | 192 | 16 | 9 | 18 | 19 | 15 | 15 | 9 | 22 | 20 | 25 | 7 | 17 | .... |
| 23 | Males | 98 | 9 | 6 | 7 | 8 | 7 | 10 | 5 | 10 | 10 | 11 | 4 | 11 | .... |
| | Females | 94 | 7 | 3 | 11 | 11 | 8 | 5 | 4 | 12 | 10 | 14 | 3 | 6 | .... |
| | Total | 201 | 14 | 12 | 13 | 16 | 17 | 18 | 12 | 20 | 17 | 21 | 17 | 24 | .... |
| 24 | Males | 95 | 7 | 7 | 4 | 5 | 7 | 6 | 7 | 11 | 11 | 11 | 9 | 10 | .... |
| | Females | 106 | 7 | 5 | 9 | 11 | 10 | 12 | 5 | 9 | 6 | 10 | 8 | 14 | .... |
| | Total | 186 | 11 | 17 | 23 | 14 | 18 | 15 | 24 | 7 | 13 | 20 | 9 | 15 | .... |
| 25 | Males | 87 | 6 | 9 | 11 | 3 | 8 | 9 | 13 | 3 | 4 | 10 | 7 | 4 | .... |
| | Females | 99 | 5 | 8 | 12 | 11 | 10 | 6 | 11 | 4 | 9 | 10 | 2 | 11 | .... |
| | Total | 177 | 30 | 10 | 17 | 12 | 11 | 13 | 14 | 16 | 10 | 15 | 16 | 13 | .... |
| 26 | Males | 88 | 12 | 1 | 9 | 6 | 8 | 8 | 9 | 11 | 5 | 6 | 8 | 5 | .... |
| | Females | 89 | 18 | 9 | 8 | 6 | 3 | 5 | 5 | 5 | 5 | 9 | 8 | 8 | .... |
| | Total | 143 | 10 | 9 | 8 | 15 | 15 | 12 | 12 | 7 | 11 | 13 | 17 | 14 | .... |
| 27 | Males | 61 | 5 | 2 | 4 | 6 | 7 | 6 | 5 | 2 | 4 | 6 | 8 | 6 | .... |
| | Females | 82 | 5 | 7 | 4 | 9 | 8 | 6 | 7 | 5 | 7 | 7 | 9 | 8 | .... |
| | Total | 215 | 19 | 14 | 22 | 16 | 12 | 13 | 21 | 13 | 19 | 26 | 18 | 22 | .... |
| 28 | Males | 95 | 10 | 6 | 9 | 6 | 5 | 2 | 9 | 5 | 9 | 10 | 13 | 11 | .... |
| | Females | 120 | 9 | 8 | 13 | 10 | 7 | 11 | 12 | 8 | 10 | 16 | 5 | 11 | .... |
| | Total | 169 | 12 | 15 | 14 | 14 | 12 | 11 | 21 | 18 | 14 | 13 | 13 | 12 | .... |
| 29 | Males | 82 | 5 | 8 | 9 | 8 | 5 | 6 | 6 | 7 | 7 | 9 | 4 | 8 | .... |
| | Females | 87 | 7 | 7 | 5 | 6 | 7 | 5 | 15 | 11 | 7 | 4 | 9 | 4 | .... |

**Table 56.**—CONTINUED.—*Deaths by ages, sex and months.*

| Ages in years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| | Total | 203 | 19 | 11 | 22 | 13 | 23 | 14 | 18 | 15 | 17 | 17 | 10 | 23 | 1 |
| 30 | Males | 106 | 12 | 4 | 11 | 5 | 11 | 6 | 11 | 5 | 8 | 8 | 6 | 18 | 1 |
| | Females | 97 | 7 | 7 | 11 | 8 | 12 | 8 | 7 | 10 | 9 | 9 | 4 | 5 | .... |
| | Total | 127 | 13 | 12 | 13 | 14 | 6 | 8 | 9 | 8 | 8 | 9 | 14 | 13 | .... |
| 31 | Males | 56 | 6 | 5 | 5 | 6 | 2 | 2 | 5 | 3 | 3 | 5 | 8 | 6 | .... |
| | Females | 71 | 7 | 7 | 8 | 8 | 4 | 6 | 4 | 5 | 5 | 4 | 6 | 7 | .... |
| | Total | 187 | 14 | 15 | 10 | 21 | 8 | 11 | 17 | 18 | 19 | 24 | 14 | 15 | 1 |
| 32 | Males | 108 | 8 | 6 | 5 | 16 | 5 | 3 | 10 | 13 | 13 | 11 | 10 | 8 | .... |
| | Females | 79 | 6 | 9 | 5 | 5 | 3 | 8 | 7 | 5 | 6 | 13 | 4 | 7 | 1 |
| | Total | 160 | 13 | 17 | 13 | 14 | 16 | 16 | 13 | 10 | 13 | 14 | 11 | 11 | .... |
| 33 | Males | 76 | 5 | 4 | 8 | 5 | 8 | 9 | 7 | 4 | 6 | 10 | 5 | 5 | .... |
| | Females | 84 | 8 | 13 | 5 | 9 | 8 | 7 | 6 | 6 | 6 | 4 | 6 | 6 | .... |
| | Total | 131 | 12 | 10 | 16 | 9 | 11 | 7 | 7 | 11 | 7 | 15 | 13 | 13 | .... |
| 34 | Males | 61 | 4 | 5 | 9 | 5 | 2 | 2 | 5 | 5 | 3 | 10 | 6 | 5 | .... |
| | Females | 70 | 8 | 5 | 7 | 4 | 9 | 5 | 2 | 6 | 4 | 5 | 7 | 8 | .... |
| | Total | 168 | 22 | 11 | 11 | 15 | 17 | 12 | 10 | 11 | 12 | 19 | 16 | 12 | .... |
| 35 | Males | 72 | 11 | 6 | 3 | 5 | 5 | 4 | 6 | 4 | 4 | 10 | 8 | 6 | .... |
| | Females | 96 | 11 | 5 | 8 | 10 | 12 | 8 | 4 | 7 | 8 | 9 | 8 | 6 | .... |
| | Total | 163 | 15 | 13 | 16 | 14 | 15 | 9 | 5 | 12 | 14 | 17 | 16 | 17 | .... |
| 36 | Males | 79 | 9 | 7 | 8 | 2 | 8 | 4 | 2 | 9 | 6 | 10 | 6 | 8 | .... |
| | Females | 84 | 6 | 6 | 8 | 12 | 7 | 5 | 3 | 3 | 8 | 7 | 10 | 9 | .... |
| | Total | 126 | 11 | 9 | 12 | 11 | 11 | 6 | 7 | 10 | 7 | 16 | 12 | 14 | .... |
| 37 | Males | 71 | 5 | 5 | 5 | 3 | 8 | 4 | 4 | 7 | 5 | 9 | 8 | 8 | .... |
| | Females | 55 | 6 | 4 | 7 | 8 | 3 | 2 | 3 | 3 | 2 | 7 | 4 | 6 | .... |
| | Total | 140 | 23 | 7 | 13 | 11 | 7 | 9 | 8 | 14 | 11 | 12 | 13 | 12 | .... |
| 38 | Males | 74 | 10 | 4 | 9 | 5 | 3 | 5 | 5 | 7 | 5 | 8 | 7 | 6 | .... |
| | Females | 66 | 13 | 3 | 4 | 6 | 4 | 4 | 3 | 7 | 6 | 4 | 6 | 6 | .... |
| | Total | 128 | 14 | 11 | 7 | 7 | 12 | 10 | 5 | 5 | 19 | 17 | 9 | 11 | 1 |
| 39 | Males | 60 | 9 | 3 | 5 | 3 | 8 | 3 | 4 | 3 | 8 | 6 | 3 | 5 | .... |
| | Females | 68 | 5 | 8 | 2 | 4 | 4 | 7 | 1 | 2 | 11 | 11 | 6 | 6 | 1 |
| | Total | 146 | 17 | 10 | 7 | 12 | 12 | 19 | 13 | 11 | 5 | 10 | 9 | 21 | .... |
| 40 | Males | 73 | 9 | 5 | 6 | 7 | 5 | 6 | 11 | 5 | 4 | 5 | 5 | 5 | .... |
| | Females | 73 | 8 | 5 | 1 | 5 | 7 | 13 | 2 | 6 | 1 | 5 | 4 | 16 | .... |
| | Total | 87 | 10 | 12 | 10 | 6 | 8 | 2 | 5 | 8 | 6 | 5 | 6 | 9 | .... |
| 41 | Males | 38 | 4 | 5 | 6 | 1 | 5 | 1 | 1 | 2 | 2 | 3 | 3 | 5 | .... |
| | Females | 49 | 6 | 7 | 4 | 5 | 3 | 1 | 4 | 6 | 4 | 2 | 3 | 4 | .... |

**Table 56.**—CONTINUED.—*Deaths by ages, sex and months.*

| Ages in years. | Sex. | Year 1892. | Months, 1892. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| 42 | Total | 153 | 13 | 10 | 15 | 11 | 8 | 14 | 14 | 15 | 11 | 15 | 15 | 12 | ---- |
| | Males | 89 | 8 | 4 | 7 | 7 | 4 | 6 | 13 | 8 | 7 | 9 | 7 | 9 | ---- |
| | Females | 64 | 5 | 6 | 8 | 4 | 4 | 8 | 1 | 7 | 4 | 6 | 8 | 3 | ---- |
| 43 | Total | 125 | 10 | 19 | 10 | 9 | 11 | 9 | 12 | 7 | 8 | 10 | 10 | 10 | ---- |
| | Males | 57 | 5 | 10 | 5 | 3 | 5 | 2 | 6 | 4 | 4 | 5 | 4 | 4 | ---- |
| | Females | 68 | 5 | 9 | 5 | 6 | 6 | 7 | 6 | 3 | 4 | 5 | 6 | 6 | ---- |
| 44 | Total | 117 | 12 | 9 | 4 | 8 | 12 | 10 | 13 | 10 | 9 | 11 | 9 | 10 | ---- |
| | Males | 57 | 5 | 6 | 3 | 4 | 8 | 3 | 7 | 5 | 3 | 5 | 6 | 2 | ---- |
| | Females | 60 | 7 | 3 | 1 | 4 | 4 | 7 | 6 | 5 | 6 | 6 | 3 | 8 | ---- |
| 45 | Total | 174 | 13 | 15 | 15 | 13 | 12 | 13 | 16 | 11 | 15 | 11 | 13 | 17 | ---- |
| | Males | 86 | 5 | 10 | 12 | 6 | 3 | 9 | 8 | 5 | 7 | 5 | 8 | 8 | ---- |
| | Females | 88 | 8 | 5 | 3 | 7 | 9 | 9 | 8 | 6 | 8 | 6 | 10 | 9 | ---- |
| 46 | Total | 124 | 17 | 12 | 9 | 13 | 15 | 8 | 12 | 9 | 3 | 10 | 8 | 6 | ---- |
| | Males | 72 | 9 | 8 | 5 | 9 | 12 | 5 | 5 | 4 | 2 | 3 | 5 | 5 | ---- |
| | Females | 52 | 8 | 4 | 4 | 4 | 3 | 3 | 7 | 5 | 1 | 7 | 3 | 3 | ---- |
| 47 | Total | 125 | 12 | 9 | 12 | 12 | 13 | 6 | 13 | 6 | 10 | 4 | 17 | 12 | ---- |
| | Males | 69 | 7 | 4 | 8 | 6 | 9 | 4 | 9 | 4 | 6 | ---- | 9 | 3 | ---- |
| | Females | 56 | 5 | 5 | 4 | 6 | 4 | 2 | 3 | 2 | 4 | 4 | 8 | 9 | ---- |
| 48 | Total | 152 | 12 | 16 | 11 | 13 | 14 | 9 | 8 | 17 | 9 | 15 | 15 | 13 | ---- |
| | Males | 81 | 7 | 5 | 7 | 7 | 7 | 6 | 4 | 12 | 5 | 5 | 9 | 7 | ---- |
| | Females | 71 | 5 | 11 | 4 | 6 | 7 | 3 | 4 | 5 | 4 | 10 | 6 | 6 | ---- |
| 49 | Total | 148 | 12 | 13 | 10 | 12 | 16 | 8 | 7 | 14 | 10 | 17 | 14 | 15 | ---- |
| | Males | 85 | 6 | 9 | 4 | 10 | 7 | 6 | 5 | 7 | 7 | 11 | 3 | 10 | ---- |
| | Females | 63 | 6 | 4 | 6 | 2 | 9 | 2 | 2 | 7 | 3 | 6 | 11 | 5 | ---- |
| 50 | Total | 165 | 17 | 16 | 12 | 18 | 10 | 13 | 9 | 15 | 6 | 21 | 10 | 16 | 2 |
| | Males | 100 | 13 | 9 | 7 | 14 | 4 | 8 | 6 | 7 | 4 | 11 | 5 | 11 | 1 |
| | Females | 65 | 4 | 7 | 5 | 4 | 6 | 5 | 3 | 8 | 2 | 10 | 5 | 5 | 1 |
| 51 | Total | 105 | 14 | 10 | 12 | 7 | 6 | 4 | 6 | 8 | 7 | 11 | 10 | 10 | ---- |
| | Males | 60 | 8 | 6 | 8 | 4 | 3 | 2 | 4 | 3 | 5 | 7 | 6 | 4 | ---- |
| | Females | 45 | 6 | 4 | 4 | 3 | 3 | 2 | 2 | 5 | 2 | 4 | 4 | 6 | ---- |
| 52 | Total | 172 | 24 | 18 | 13 | 9 | 18 | 14 | 13 | 9 | 13 | 9 | 19 | 13 | ---- |
| | Males | 95 | 12 | 9 | 7 | 5 | 10 | 8 | 8 | 6 | 9 | 5 | 9 | 7 | ---- |
| | Females | 77 | 12 | 9 | 6 | 4 | 8 | 6 | 5 | 3 | 4 | 4 | 10 | 6 | ---- |
| 53 | Total | 141 | 16 | 13 | 10 | 11 | 11 | 9 | 15 | 10 | 5 | 16 | 12 | 13 | ---- |
| | Males | 80 | 7 | 7 | 7 | 6 | 7 | 6 | 12 | 5 | 2 | 9 | 6 | 6 | ---- |
| | Females | 61 | 9 | 6 | 3 | 5 | 4 | 3 | 3 | 5 | 3 | 7 | 6 | 7 | ---- |

**Table 56.**—CONTINUED.—*Deaths by ages, sex and months.*

| Age in years. | Sex. | Year 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| | Total | 143 | 18 | 14 | 9 | 10 | 15 | 10 | 10 | 12 | 13 | 8 | 11 | 13 | .... |
| 54 | Males | 80 | 12 | 8 | 4 | 6 | 10 | 5 | 6 | 3 | 9 | 5 | 5 | 7 | .... |
| | Females | 63 | 6 | 6 | 5 | 4 | 5 | 5 | 4 | 9 | 4 | 3 | 6 | 6 | .... |
| | Total | 144 | 24 | 12 | 12 | 11 | 12 | 7 | 14 | 7 | 10 | 13 | 5 | 17 | .... |
| 55 | Males | 82 | 15 | 5 | 9 | 6 | 8 | 6 | 9 | 2 | 2 | 8 | 2 | 10 | .... |
| | Females | 62 | 9 | 7 | 3 | 5 | 4 | 1 | 5 | 5 | 8 | 5 | 3 | 7 | .... |
| | Total | 168 | 15 | 15 | 23 | 19 | 3 | 14 | 8 | 17 | 16 | 8 | 19 | 11 | .... |
| 56 | Males | 102 | 10 | 9 | 12 | 14 | 1 | 8 | 5 | 9 | 6 | 5 | 14 | 9 | .... |
| | Females | 66 | 5 | 6 | 11 | 5 | 2 | 6 | 3 | 8 | 10 | 3 | 5 | 2 | .... |
| | Total | 152 | 20 | 13 | 9 | 13 | 10 | 13 | 7 | 5 | 14 | 13 | 13 | 12 | .... |
| 57 | Males | 86 | 11 | 10 | 5 | 12 | 5 | 5 | 3 | 4 | 9 | 4 | 11 | 7 | .... |
| | Females | 66 | 9 | 3 | 4 | 6 | 5 | 8 | 4 | 1 | 5 | 9 | 7 | 5 | .... |
| | Total | 187 | 28 | 19 | 10 | 17 | 19 | 9 | 17 | 16 | 9 | 11 | 15 | 17 | .... |
| 58 | Males | 103 | 14 | 9 | 8 | 8 | 10 | 4 | 8 | 11 | 8 | 5 | 8 | 10 | .... |
| | Females | 84 | 14 | 10 | 2 | 9 | 9 | 5 | 9 | 5 | 1 | 6 | 7 | 7 | .... |
| | Total | 168 | 13 | 20 | 16 | 11 | 11 | 8 | 11 | 16 | 13 | 27 | 8 | 9 | .... |
| 59 | Males | 98 | 10 | 11 | 9 | 9 | 7 | 6 | 4 | 10 | 7 | 15 | 6 | 4 | .... |
| | Females | 70 | 8 | 9 | 7 | 2 | 4 | 2 | 7 | 6 | 6 | 12 | 2 | 5 | .... |
| | Total | 206 | 13 | 11 | 19 | 15 | 16 | 19 | 15 | 20 | 12 | 23 | 17 | 19 | 2 |
| 60 | Males | 109 | 10 | 7 | 7 | 6 | 9 | 13 | 11 | 9 | 6 | 12 | 9 | 8 | 2 |
| | Females | 97 | 8 | 4 | 12 | 9 | 7 | 6 | 4 | 11 | 6 | 11 | 8 | 11 | .... |
| | Total | 141 | 21 | 14 | 11 | 13 | 8 | 9 | 7 | 9 | 8 | 11 | 15 | 16 | .... |
| 61 | Males | 73 | 10 | 9 | 6 | 6 | 6 | 4 | 5 | 7 | 2 | 3 | 10 | 5 | .... |
| | Females | 68 | 11 | 5 | 5 | 6 | 2 | 5 | 2 | 2 | 6 | 8 | 5 | 11 | .... |
| | Total | 212 | 30 | 20 | 20 | 9 | 14 | 12 | 15 | 15 | 20 | 21 | 18 | 18 | .... |
| 62 | Males | 129 | 17 | 9 | 13 | 6 | 9 | 9 | 8 | 12 | 10 | 13 | 10 | 13 | .... |
| | Females | 83 | 13 | 11 | 7 | 3 | 5 | 3 | 7 | 3 | 10 | 8 | 8 | 5 | .... |
| | Total | 194 | 21 | 13 | 17 | 27 | 15 | 9 | 11 | 16 | 17 | 11 | 19 | 18 | .... |
| 63 | Males | 108 | 10 | 8 | 6 | 16 | 7 | 7 | 2 | 12 | 12 | 6 | 11 | 11 | .... |
| | Females | 86 | 11 | 5 | 11 | 11 | 8 | 2 | 9 | 4 | 5 | 5 | 8 | 7 | .... |
| | Total | 189 | 28 | 22 | 17 | 12 | 18 | 15 | 14 | 16 | 8 | 13 | 13 | 13 | .... |
| 64 | Males | 91 | 11 | 11 | 10 | 8 | 5 | 8 | 7 | 9 | 4 | 3 | 7 | 8 | .... |
| | Females | 98 | 17 | 11 | 7 | 4 | 13 | 7 | 7 | 7 | 4 | 10 | 6 | 5 | .... |
| | Total | 266 | 34 | 20 | 22 | 35 | 25 | 17 | 13 | 16 | 20 | 16 | 26 | 22 | .... |
| 65 | Males | 149 | 16 | 11 | 13 | 23 | 9 | 7 | 10 | 12 | 14 | 11 | 13 | 10 | .... |
| | Females | 117 | 18 | 9 | 9 | 12 | 16 | 10 | 3 | 4 | 6 | 5 | 13 | 12 | .... |

**Table 56.**—CONTINUED.—*Deaths by ages, sex and months.*

| Ages in years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| | Total | 208 | 28 | 19 | 12 | 20 | 16 | 20 | 10 | 15 | 17 | 16 | 21 | 8 | 1 |
| 66 | Males | 112 | 16 | 11 | 7 | 11 | 5 | 10 | 8 | 9 | 10 | 6 | 14 | 5 | .... |
| | Females | 91 | 12 | 8 | 5 | 9 | 11 | 10 | 2 | 6 | 7 | 10 | 7 | 3 | 1 |
| | Total | 212 | 33 | 16 | 15 | 26 | 17 | 23 | 11 | 9 | 20 | 9 | 14 | 19 | .... |
| 67 | Males | 110 | 13 | 8 | 10 | 14 | 11 | 10 | 8 | 6 | 14 | 3 | 5 | 8 | .... |
| | Females | 102 | 20 | 8 | 5 | 12 | 6 | 13 | 3 | 3 | 6 | 6 | 9 | 11 | .... |
| | Total | 213 | 26 | 24 | 21 | 16 | 18 | 19 | 13 | 14 | 12 | 18 | 13 | 19 | .... |
| 68 | Males | 124 | 14 | 15 | 12 | 7 | 13 | 12 | 10 | 6 | 6 | 8 | 9 | 12 | .... |
| | Females | 89 | 12 | 9 | 9 | 9 | 5 | 7 | 3 | 8 | 6 | 10 | 4 | 7 | .... |
| | Total | 180 | 29 | 21 | 9 | 9 | 17 | 9 | 19 | 14 | 17 | 11 | 13 | 12 | .... |
| 69 | Males | 109 | 17 | 15 | 4 | 6 | 12 | 2 | 12 | 10 | 8 | 7 | 9 | 7 | .... |
| | Females | 71 | 12 | 6 | 5 | 3 | 5 | 7 | 7 | 4 | 9 | 4 | 4 | 5 | .... |
| | Total | 209 | 25 | 23 | 14 | 17 | 12 | 15 | 17 | 16 | 20 | 16 | 18 | 15 | 1 |
| 70 | Males | 137 | 14 | 18 | 10 | 12 | 9 | 11 | 13 | 10 | 11 | 9 | 9 | 10 | 1 |
| | Females | 72 | 11 | 5 | 4 | 5 | 3 | 4 | 4 | 6 | 9 | 7 | 9 | 5 | .... |
| | Total | 172 | 25 | 21 | 23 | 14 | 11 | 13 | 9 | 20 | 12 | 7 | 8 | 9 | .... |
| 71 | Males | 103 | 18 | 13 | 13 | 8 | 5 | 10 | 5 | 11 | 3 | 4 | 7 | 6 | .... |
| | Females | 69 | 7 | 8 | 10 | 6 | 6 | 3 | 4 | 9 | 9 | 3 | 1 | 3 | .... |
| | Total | 307 | 47 | 24 | 17 | 28 | 23 | 23 | 22 | 20 | 21 | 24 | 30 | 27 | 1 |
| 72 | Males | 173 | 26 | 14 | 9 | 16 | 19 | 12 | 12 | 11 | 13 | 12 | 14 | 15 | .... |
| | Females | 134 | 21 | 10 | 8 | 12 | 4 | 11 | 10 | 9 | 8 | 12 | 16 | 12 | 1 |
| | Total | 221 | 24 | 21 | 17 | 12 | 14 | 18 | 19 | 13 | 19 | 20 | 16 | 28 | .... |
| 73 | Males | 119 | 10 | 15 | 6 | 6 | 7 | 11 | 10 | 9 | 7 | 13 | 10 | 15 | .... |
| | Females | 102 | 14 | 6 | 11 | 6 | 7 | 7 | 9 | 4 | 12 | 7 | 6 | 13 | .... |
| | Total | 217 | 19 | 23 | 13 | 20 | 22 | 11 | 17 | 17 | 16 | 18 | 19 | 22 | .... |
| 74 | Males | 126 | 10 | 18 | 6 | 11 | 14 | 7 | 9 | 9 | 8 | 10 | 11 | 13 | .... |
| | Females | 91 | 9 | 5 | 7 | 9 | 8 | 4 | 8 | 8 | 8 | 8 | 8 | 9 | .... |
| | Total | 223 | 45 | 18 | 10 | 23 | 11 | 17 | 15 | 11 | 13 | 20 | 17 | 23 | .... |
| 75 | Males | 123 | 25 | 7 | 6 | 15 | 5 | 11 | 5 | 8 | 6 | 11 | 9 | 15 | .... |
| | Females | 100 | 20 | 11 | 4 | 8 | 6 | 6 | 10 | 3 | 7 | 9 | 8 | 8 | .... |
| | Total | 239 | 31 | 18 | 21 | 22 | 20 | 15 | 14 | 20 | 13 | 21 | 22 | 22 | .... |
| 76 | Males | 141 | 19 | 8 | 10 | 12 | 13 | 9 | 8 | 9 | 10 | 16 | 14 | 13 | .... |
| | Females | 98 | 12 | 10 | 11 | 10 | 7 | 6 | 6 | 11 | 3 | 5 | 8 | 9 | .... |
| | Total | 193 | 17 | 18 | 18 | 22 | 17 | 8 | 14 | 13 | 14 | 24 | 15 | 13 | .... |
| 77 | Males | 119 | 10 | 9 | 9 | 14 | 13 | 4 | 8 | 9 | 9 | 14 | 10 | 10 | .... |
| | Females | 74 | 7 | 9 | 9 | 8 | 4 | 4 | 6 | 4 | 5 | 10 | 5 | 3 | .... |

**Table 56.**—CONTINUED.—*Deaths by ages, sex and months.*

| Ages in years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| | Total | 198 | 21 | 26 | 13 | 18 | 17 | 5 | 12 | 10 | 16 | 15 | 20 | 20 | .... |
| '8 | Males | 113 | 13 | 14 | 8 | 7 | 9 | 4 | 6 | 7 | 5 | 14 | 12 | 14 | .... |
| | Females | 80 | 8 | 12 | 5 | 11 | 8 | 1 | 6 | 3 | 11 | 1 | 8 | 6 | .... |
| | Total | 158 | 25 | 22 | 14 | 16 | 6 | 7 | 11 | 9 | 6 | 12 | 8 | 12 | .... |
| 9 | Males | 96 | 19 | 11 | 8 | 12 | 3 | 4 | 8 | 7 | 3 | 8 | 6 | 7 | .... |
| | Females | 62 | 16 | 11 | 6 | 4 | 3 | 3 | 3 | 2 | 3 | 4 | 2 | 5 | .... |
| | Total | 184 | 29 | 17 | 13 | 14 | 8 | 15 | 13 | 9 | 15 | 12 | 13 | 26 | .... |
| 0 | Males | 108 | 17 | 11 | 10 | 5 | 3 | 7 | 9 | 4 | 10 | 8 | 8 | 16 | .... |
| | Females | 76 | 12 | 6 | 3 | 9 | 5 | 8 | 4 | 5 | 5 | 4 | 5 | 10 | .... |
| | Total | 160 | 25 | 15 | 13 | 15 | 8 | 8 | 16 | 10 | 7 | 14 | 11 | 17 | 1 |
| 1 | Males | 89 | 17 | 7 | 7 | 8 | 2 | 4 | 11 | 4 | 4 | 8 | 6 | 10 | 1 |
| | Females | 71 | 8 | 8 | 6 | 7 | 6 | 4 | 5 | 6 | 3 | 6 | 5 | 7 | .... |
| | Total | 181 | 27 | 14 | 21 | 12 | 13 | 16 | 13 | 12 | 10 | 8 | 13 | 22 | .... |
| 2 | Males | 104 | 17 | 10 | 13 | 7 | 7 | 8 | 7 | 10 | 3 | 5 | 5 | 12 | .... |
| | Females | 77 | 10 | 4 | 8 | 5 | 6 | 8 | 6 | 2 | 7 | 3 | 8 | 10 | .... |
| | Total | 117 | 24 | 13 | 13 | 4 | 8 | 3 | 9 | 9 | 14 | 8 | 3 | 9 | .... |
| 3 | Males | 66 | 15 | 5 | 5 | 3 | 4 | 2 | 4 | 6 | 10 | 6 | 2 | 4 | .... |
| | Females | 51 | 9 | 8 | 8 | 1 | 4 | 1 | 5 | 3 | 4 | 2 | 1 | 5 | .... |
| | Total | 127 | 13 | 9 | 12 | 21 | 8 | 9 | 11 | 10 | 8 | 9 | 15 | 12 | .... |
| 4 | Males | 74 | 9 | 3 | 6 | 10 | 4 | 3 | 7 | 4 | 2 | 7 | 12 | 7 | .... |
| | Females | 63 | 4 | 6 | 6 | 11 | 4 | 6 | 4 | 6 | 6 | 2 | 3 | 5 | .... |
| | Total | 100 | 20 | 7 | 7 | 7 | 6 | 5 | 7 | 5 | 9 | 9 | 10 | 8 | .... |
| 5 | Males | 57 | 13 | 4 | 4 | 4 | 2 | 4 | 4 | 1 | 3 | 5 | 5 | 3 | .... |
| | Females | 43 | 7 | 3 | 3 | 3 | 4 | 1 | 3 | 4 | 1 | 4 | 5 | 5 | .... |
| | Total | 78 | 13 | 9 | 4 | 9 | 8 | 2 | 4 | 8 | 1 | 8 | 2 | 10 | .... |
| 6 | Males | 46 | 7 | 4 | 1 | 5 | 5 | 1 | 4 | 6 | 1 | 4 | 2 | 6 | .... |
| | Females | 32 | 6 | 5 | 3 | 4 | 3 | 1 | .... | 2 | .... | 4 | .... | 4 | .... |
| | Total | 90 | 18 | 8 | 6 | 7 | 5 | 4 | 6 | 6 | 3 | 7 | 10 | 10 | .... |
| 7 | Males | 50 | 10 | 5 | 3 | 3 | 2 | 3 | 3 | 5 | 1 | 2 | 7 | 6 | .... |
| | Females | 40 | 8 | 3 | 3 | 4 | 3 | 1 | 3 | 1 | 2 | 5 | 3 | 4 | .... |
| | Total | 62 | 10 | 3 | 5 | 6 | 4 | 6 | 4 | 4 | 4 | 7 | 2 | 7 | .... |
| 8 | Males | 29 | 3 | 1 | 2 | 3 | 3 | 4 | 3 | 2 | 1 | 2 | 1 | 4 | .... |
| | Females | 33 | 7 | 2 | 3 | 3 | 1 | 2 | 1 | 2 | 3 | 5 | 1 | 3 | .... |
| | Total | 49 | 8 | 6 | 1 | 1 | 3 | 4 | 2 | 4 | 5 | 4 | 7 | 4 | .... |
| 9 | Males | 23 | 4 | 3 | 1 | .... | 1 | 3 | 1 | 2 | 1 | 1 | 4 | 2 | .... |
| | Females | 26 | 4 | 3 | .... | 1 | 2 | 1 | 1 | 3 | 4 | 3 | 3 | 2 | .... |

**Table 56.**—CONCLUDED.—*Deaths by ages, sex and months.*

| Ages in years. | Sex. | Year, 1892. | Months, 1892. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| 90 | Total | 45 | 5 | 3 | 3 | 7 | 5 | .... | 2 | 2 | 2 | 6 | 6 | 4 | .... |
| | Males | 23 | 2 | 2 | 2 | 4 | 3 | .... | 1 | 1 | 2 | 3 | 2 | 1 | .... |
| | Females | 22 | 3 | 1 | 1 | 3 | 2 | .... | 1 | 1 | .... | 3 | 4 | 3 | .... |
| 91 | Total | 25 | 4 | 2 | 1 | 3 | .... | 3 | 1 | 2 | 2 | 3 | 2 | 1 | 1 |
| | Males | 12 | 2 | 2 | 1 | 1 | .... | 1 | 1 | .... | 1 | 1 | .... | 1 | 1 |
| | Females | 13 | 2 | .... | .... | 2 | .... | 2 | .... | 2 | 1 | 2 | 2 | .... | .... |
| 92 | Total | 39 | 7 | 3 | 4 | 1 | 3 | 1 | .... | 6 | 1 | 4 | 4 | 5 | .... |
| | Males | 24 | 5 | 2 | 3 | .... | 1 | 1 | .... | 2 | .... | 2 | 3 | 5 | .... |
| | Females | 15 | 2 | 1 | 1 | 1 | 2 | .... | .... | 4 | 1 | 2 | 1 | .... | .... |
| 93 | Total | 16 | 4 | 1 | 3 | .... | 2 | 2 | .... | .... | .... | 1 | 2 | 1 | .... |
| | Males | 7 | 2 | .... | 2 | .... | 2 | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Females | 9 | 2 | 1 | 1 | .... | .... | 1 | .... | .... | .... | 1 | 2 | 1 | .... |
| 94 | Total | 15 | 2 | 2 | 3 | 1 | 1 | .... | 1 | .... | .... | 3 | 1 | 1 | .... |
| | Males | 10 | 1 | 2 | 2 | .... | 1 | .... | 1 | .... | .... | 1 | 1 | 1 | .... |
| | Females | 5 | 1 | .... | 1 | 1 | .... | .... | .... | .... | .... | 2 | .... | .... | .... |
| 95 | Total | 7 | 2 | .... | .... | .... | 1 | .... | .... | 1 | .... | 1 | 1 | 1 | .... |
| | Males | 2 | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... |
| | Females | 5 | 2 | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | 1 | .... |
| 96 | Total | 11 | 3 | 1 | 1 | 1 | .... | .... | .... | .... | 1 | 1 | 1 | 2 | .... |
| | Males | 3 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| | Females | 8 | 2 | .... | 1 | 1 | .... | .... | .... | .... | 1 | 1 | .... | 2 | .... |
| 97 | Total | 4 | 1 | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 |
| | Males | 2 | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Females | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| 98 | Total | 3 | 1 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Males | 2 | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Females | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... |
| 99 | Total | 3 | .... | .... | .... | 1 | .... | 2 | .... | .... | .... | .... | .... | .... | .... |
| | Males | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Females | 2 | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... |
| 100 and over | Total | 4 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | 1 | .... | .... |
| | Males | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Females | 4 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | 1 | .... | .... |
| Unknown | Total | 425 | 50 | 29 | 15 | 47 | 30 | 27 | 30 | 35 | 32 | 49 | 36 | 32 | 13 |
| | Males | 241 | 26 | 19 | 11 | 22 | 19 | 17 | 17 | 22 | 17 | 32 | 18 | 15 | 6 |
| | Females | 154 | 16 | 8 | 4 | 21 | 10 | 8 | 11 | 13 | 14 | 15 | 13 | 14 | 7 |
| | Unknown | 30 | 8 | 2 | .... | 4 | 1 | 2 | 2 | .... | 1 | 2 | 5 | 3 | .... |

From Table 56 the statements concerning the average ages at death of each sex, which are given in Table 57, are derived. To allow for the omission of the months in excess of whole years and for the days in excess of whole months in children aged less than one year, one-half year and one-half month respectively are added to the aggregate for each individual of these classes, and the resulting total being divided by the total number of individuals, less those of unknown age, the average age stated in the table is obtained.

**Table 57.**—*By nativity, the average age of decedents in Michigan in 1892, compared with 1890–91 and with the mean of the average ages for the ten-year period, 1882–91. (Still-births included.)*

| Nativity of decedents. | Average age at death, 1890. | | | Average age at death, 1891. | | | Average age at death, 1892. | | | Mean of average ages, 1882–91. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | Males. | Females. | Total. | Males. | Females. | Total. | Males. | Females. | Total. | Males. | Females. |
| All nativities | 28.6 | 30.5 | 29.4 | 30.3 | 31.6 | 30.1 | 32.2 | 32.4 | 32.0 | 28.0 | 28.9 | 27.8 |
| Native-born | 24.8 | 23.4 | 23.2 | 24.0 | 23.9 | 24.1 | 24.9 | 24.5 | 25.5 | 22.3 | 22.0 | 21.9 |
| Foreign-born | 49.9 | 50.0 | 48.4 | 53.5 | 54.8 | 51.3 | 52.6 | 53.0 | 52.1 | 49.7 | 50.1 | 49.1 |

The difference between the average ages at death of native-born and foreign-born inhabitants comes largely from the fact that children born of foreign parents are classed among the natives and that the death-rate among children is much higher than among adults. The inclusion of still-births in this table also lowers the average age at death for all nativities, and especially for the native-born as compared with the foreign-born, in the latter of which no still-births are found. As an illustration of this fact, the average ages at death were calculated for deaths of all nativities and deaths of the native-born for the year 1892 with omission of still-births, and the figures subjoined may be compared with those stated in the table for the same year:—

*Average age at death, by nativity, 1892. (Still-births excluded.)*

| Nativity. | Persons. | Males. | Females. |
|---|---|---|---|
| All nativities | 33.7 | 34.1 | 33.3 |
| Native-born | 26.5 | 26.3 | 26.8 |
| Foreign-born (same as stated in Table 57) | 52.6 | 53.0 | 52.1 |

## INFANT MORTALITY.*

Tables 58 to 62, inclusive, are designed to exhibit some important facts in regard to a very numerous class of deaths—those of infants dying before the completion of the

* See, also, Table 50, p. 112, for statements of the death-rates of infants under one year of age per 1,000 living population at that age, and per cents of deaths of infants under one year to total deaths at specified ages, for the years 1870–92. Also death-rates under one year per 1,000 births. Still-births are excluded from both births and deaths in Table 50.

first year of life. By referring to table 53 it will be seen that such deaths amounted to 23.5 per cent of the total number of deaths in 1892 at all ages. It should be remembered, however, that a large number of still-births are included in this statement of the number of deaths of children under one year of age. Omitting these, and also making the comparison include only deaths in which the age was specified, we find that 20.2 per cent of the deaths of 1892 were of infants aged under one year (Table 50).

This ratio, although lower than that inclusive of still-births, is sufficiently high to indicate the necessity of careful study of the causes of death of the infants who succumb during their first year of life. The distribution of these deaths through the year, so far as our present defective system of registration affords any information, and their relation to the number of children born in this and the preceding year, from whose numbers these deaths are taken, are the principal subjects discussed in these tables. The important diseases affecting infantile mortality are referred to in the following section of this report.

It is to be regretted that still-births were originally included in these tables relating to infant mortality, as they serve only to complicate and obscure the subject. They are all included in the number of deaths under one month of age, and the death-rate during the first month of life appears, therefore, exaggerated out of all proportion to the death-rates of the other months of the first year. In order to preserve the uniformty of the tables in the present report with those of preceding years, they are included as usual, and their number and relation to total births stated in Table 58. The number of still-births reported for each month may be found in Table 25, Part II.

**Table 58.**—*The relation of still-births to all deaths as returned for the years 1890–92 and the average for ten years 1882–91. Corrected by means of the returns of births.*

| | Year. | | | |
|---|---|---|---|---|
| | 1890. | 1891. | 1892. | Av. for 10 years, 1882-91. |
| Total deaths, including still-births | 21,642 | 22,079 | 21,729 | 19,150 |
| Number of still-births | 1,397 | 1,090 | 1,014 | 1,046 |
| Per cent of still-births to total deaths | 6.5 | 4.9 | 4.7 | 5.5 |

Still-births are returned by the enumerators in their lists of births as well as of deaths, and it requires careful comparison of both sets of returns to insure that none be omitted or duplicated. This practice has been followed in these reports since 1874, and the result is that a somewhat higher proportion of deaths of this class is obtained than would result from a single enumeration. As an average correction, to be applied when it is desirable to compare statements of mortality in these reports with the reports of States in which still-births are not collected, about five per cent may be substracted from total deaths. Still-births probably show about the same percentages of deficiency in enumeration, so far as the months in which they occur are concerned, as other deaths.

ible 59, a full explanation of the arrangement of which is given below, is ingenious
rm, and were it not for the facts that still-births are included in it and that the
derived from the present method of enumeration are quite unreliable so far as the
ive numbers of deaths reported in the several months of the year are concerned,
ld be of considerable value. Very little can be asserted with any degree of posi-
ness as to the comparative influence of the different months and seasons on the
ntile death-rate. The same uncertainty attaches to the results reached in the four
s following in which births and deaths by months are compared.

LANATION OF TABLE 59.--Although this table may appear at first sight to be very intricate and
licated in arrangement, the central or body part of the table is quite simple in principle, and this
understood, the use of the remainder, which consists entirely of footings for special purposes,
follows. The following groups of statements are made in this table:

*he number of children, of each sex, who died during each month of the year 1892, arranged according
r ages at death in months.* This portion of the table is identical with the first part of Table 56 for
es from under one month to eleven months. The footings showing the total number of deaths for
nonth of 1892 of children under one year of age are at the extreme right of the table in the column
l "Deaths by months—all aged under one year." The greatest mortality was for the month of
t in which occurred 656 deaths; the least for June, only 316. The numbers given for the latter
s of the year are larger than those for the earlier months on account of being more accurately
ed, apart from any actual differences in mortality between the different months.

*he months of birth in 1891 and 1892 of children dying at each age, in months, during each month of
ar 1892.* Here the *diagonal footings* came into use, for convenience in making which the heavy
nal line and the plan of printing *alternate diagonal lines* in different styles of type are employed.

*The numbers on the left of the diagonal line represent children dying at each age in months, and
y each month of the year 1892, who were born in that year, 1892.*

*The numbers on the right of the diagonal line represent children dying at each age in months, and
y each month of the year 1892, who were born in the previous year, 1891.*

will be readily seen by taking an example. The upper left hand space of the body of the table
ins the numbers 110, 81, which affirm that 110 males and 81 females died during the month of Jan-
1892, aged less than one month. "This being the first month of the year of death, it will be seen by
reflection that all who died during the month of January under one month of age, were also born
the same month [not strictly true], being the first month of the year of death, 1892; while those
ed at *one month* of age, 18 males and 11 females, were born in December, the last month of the pre-
year, 1891."

nce there is drawn a short perpendicular line between those *under* one month of age, and those *at*
onth of age, thus separating those who were born during the year of death from those who were
luring the previous year."

ke again the month of February; it will readily be seen that those dying at one month of age were
n January, the *first* month of the year of death, while those dying at two months of age, were born
ember, the *last* month of the previous year. Here the short perpendicular line is drawn between
at *one* month of age and those at *two* months of age, thus separating, as for the month of January,
who were born during the year of death, from those who were born during the previous year. These
perpendicular lines connected by short horizontal lines make up the heavy angling line which runs
nally through the entire table, separating, for all the months of the year of death, those who were
luring the year of death from those who were born during the previous year."

"*One other valuable exhibit in the table is the month of birth of all those who died during each
of the year.* As has already been shown, the heavy angling line separates children born in the year
th from those born in the previous year. This being true, it may be seen at a glance that the first
nal column of figures at the left of the angling line would represent the births for the month of
ry, the first month of the year of death; the second column would represent the births for the month
bruary, the second month of the year of death; the third, for the month of March, the third month
year of death, and so on *through the current year.* The first diagonal column of figures at the right
angling line would represent the births for the month of December; the second column at the
the births for November; the third, those for October and so back *through the previous year.* It
e seen that the diagonal columns representing the months of birth on the left of the angling line,

**Table 60.**—*Of the children born in 1891, the number who died during the year 1891; the number who died during the year 1892, under one year of age; and the per cent of the decedents under one year of age to the total number of children born in 1891, according to the returns. (Still-births included.)*

| Months of birth. | Born in 1891. | | | | | Males born in 1891. | | | | | Females born in 1891. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Births in 1891 as returned. | Died during the year 1891. | Died aged under 1 year during the year 1892. | Total died aged under 1 year. | Per cent of deaths under 1 to births. | Births of males 1891. as returned. | Died during the year 1891. | Died aged under 1 year during the year 1892. | Total died aged under 1 year. | Per cent of deaths under 1 to births. | Births of females 1891 as returned. | Died during the year 1891. | Died aged under 1 year during the year 1892. | Total died aged under 1 year. | Per cent of deaths under 1 to births. |
| Year | * 50,759 | 4,350 | 976 | 5,326 | 10.5 | 26,416 | 2,494 | 549 | 3,043 | 11.5 | 24,221 | 1,966 | 427 | 2,393 | 9.9 |
| January | 3,629 | 415 | ..... | 415 | 11.4 | 1,914 | 237 | ..... | 237 | 12.4 | 1,708 | 178 | ..... | 178 | 10.4 |
| February | 3,534 | 447 | 10 | 457 | 12.9 | 1,857 | 241 | 6 | 247 | 13.3 | 1,674 | 206 | 4 | 210 | 12.5 |
| March | 4,345 | 480 | 24 | 504 | 11.6 | 2,292 | 288 | 14 | 302 | 13.2 | 2,045 | 202 | 10 | 212 | 10.4 |
| April | 4,238 | 495 | 29 | 524 | 12.4 | 2,205 | 267 | 13 | 280 | 12.7 | 2,035 | 228 | 16 | 244 | 12.0 |
| May | 4,465 | 434 | 56 | 490 | 11.0 | 2,259 | 232 | 25 | 257 | 11.4 | 2,191 | 202 | 31 | 233 | 10.6 |
| June | 4,078 | 417 | 64 | 481 | 11.8 | 2,090 | 223 | 34 | 257 | 12.3 | 1,979 | 194 | 30 | 224 | 11.3 |
| July | 4,293 | 369 | 87 | 456 | 10.6 | 2,180 | 215 | 43 | 258 | 11.8 | 2,097 | 154 | 44 | 198 | 9.4 |
| August | 4,702 | 384 | 95 | 479 | 10.2 | 2,435 | 215 | 55 | 270 | 11.1 | 2,255 | 169 | 40 | 209 | 9.3 |
| September | 4,646 | 284 | 118 | 402 | 8.7 | 2,431 | 161 | 62 | 223 | 9.2 | 2,205 | 123 | 56 | 179 | 8.1 |
| October | 4,340 | 240 | 159 | 399 | 9.2 | 2,298 | 141 | 103 | 244 | 10.6 | 2,029 | 99 | 56 | 155 | 7.6 |
| November | 4,098 | 231 | 166 | 397 | 9.7 | 2,192 | 141 | 95 | 236 | 10.8 | 1,898 | 90 | 71 | 161 | 8.5 |
| December | 4,391 | 154 | 168 | 322 | 9.6 | 2,263 | 183 | 99 | 232 | 10.3 | 2,115 | 121 | 69 | 190 | 9.5 |

* Excluding 53 in unknown month; 23 males, 25 females and 5 unknown.

**Table 61.**—*The months of birth and of death of children born in 1891, who died under one year of age.* (*Still-births included.*)

| Months of birth, 1891. | Born in 1891, died under 1 year of age* | Months of death, 1891. | | | | | | | | | | | | Months of death, 1892. | | | | | | | | | | | | Per cent of deaths under 1 month to deaths under 1 year. | Births in 1891. † | Per cent of deaths under 1 month to births. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | | | |
| Year | 5,326 | 178 | 213 | 263 | 316 | 260 | 319 | 386 | 609 | 546 | 466 | 377 | 417 | 190 | 142 | 113 | 124 | 74 | 53 | 85 | 109 | 52 | 28 | 6 | ..... | 42.9 | 50,759 | 4.5 |
| January | 415 | 178 | 33 | 26 | 26 | 9 | 20 | 23 | 31 | 24 | 16 | 8 | 21 | .... | ..... | .... | ..... | .... | ..... | .... | .... | .... | ..... | .... | ..... | 42.9 | 3,629 | 4.9 |
| February | 457 | .... | 180 | 28 | 29 | 18 | 21 | 29 | 51 | 36 | 18 | 15 | 22 | 10 | ..... | .... | ..... | .... | ..... | .... | ..... | .... | ..... | .... | ..... | 39.4 | 3,534 | 5.1 |
| March | 504 | .... | .... | 209 | 39 | 19 | 23 | 34 | 58 | 44 | 25 | 15 | 14 | 12 | 12 | .... | ..... | .... | ..... | .... | ..... | .... | ..... | .... | ..... | 41.5 | 4,345 | 4.8 |
| April | 524 | .... | .... | .... | 222 | 22 | 36 | 45 | 78 | 30 | 34 | 10 | 18 | 10 | 11 | 8 | ..... | .... | ..... | .... | ..... | .... | ..... | .... | ..... | 42.4 | 4,238 | 5.2 |
| May | 490 | .... | .... | .... | .... | 192 | 28 | 39 | 60 | 37 | 40 | 16 | 22 | 16 | 10 | 16 | 14 | .... | ..... | .... | ..... | .... | ..... | .... | ..... | 39.2 | 4,465 | 4.3 |
| June | 481 | .... | .... | .... | .... | .... | 191 | 39 | 68 | 50 | 24 | 16 | 29 | 13 | 13 | 12 | 12 | 14 | ..... | .... | ..... | .... | ..... | .... | ..... | 39.7 | 4,078 | 4.7 |
| July | 456 | .... | .... | .... | .... | .... | .... | 177 | 45 | 63 | 41 | 22 | 21 | 16 | 18 | 9 | 23 | 9 | 12 | .... | ..... | .... | ..... | .... | ..... | 38.8 | 4,293 | 4.1 |
| August | 479 | .... | .... | .... | .... | .... | .... | .... | 218 | 77 | 39 | 23 | 27 | 23 | 18 | 8 | 20 | 7 | 7 | 12 | ..... | .... | ..... | .... | ..... | 45.5 | 4,702 | 4.6 |
| September | 402 | .... | .... | .... | .... | .... | .... | .... | .... | 185 | 44 | 29 | 26 | 13 | 16 | 14 | 13 | 13 | 11 | 16 | 22 | .... | ..... | .... | ..... | 46.0 | 4,646 | 4.0 |
| October | 399 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 185 | 29 | 26 | 21 | 19 | 11 | 14 | 8 | 5 | 21 | 33 | 27 | ..... | .... | ..... | 46.4 | 4,340 | 4.3 |
| November | 397 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 194 | 37 | 27 | 19 | 21 | 13 | 13 | 7 | 18 | 20 | 13 | 15 | .... | ..... | 48.9 | 4,098 | 4.7 |
| December | 322 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 154 | 29 | 6 | 14 | 15 | 10 | 11 | 18 | 34 | 12 | 13 | 6 | ..... | 47.8 | 4,391 | 3.5 |
| Number of deaths ‡ | 5,326 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2285 | 450 | 407 | 366 | 320 | 287 | 283 | 209 | 203 | 171 | 172 | 173 | ..... | ..... | ..... |
| Ages in months ‡ | ..... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | -1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | ..... | ..... | ..... |

* Excluding deaths in unknown month and of unknown sex. † Excluding 53 births in unknown month. ‡ Deaths at each age.

**Table 60.**—*Of the children born in 1891, the number who died during the year 1891; the number who died during the year 1892, under one year of age; and the per cent of the decedents under one year of age to the total number of children born in 1891, according to the returns. (Still-births included.)*

| Months of birth. | Births in 1891 as returned. | Born in 1891. | | | | Births of males 1891. as returned. | Males born in 1891. | | | | Births of females 1891 as returned. | Females born in 1891. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Died during the year 1891. | Died aged under 1 year during the year 1892. | Total died aged under 1 year. | Per cent of deaths under 1 to births. | | Died during the year 1891. | Died aged under 1 year during the year 1892. | Total died aged under 1 year. | Per cent of deaths under 1 to births. | | Died during the year 1891. | Died aged under 1 year during the year 1892. | Total died aged under 1 year. | Per cent of deaths under 1 to births. |
| Year | * 50,759 | 4,350 | 976 | 5,326 | 10.5 | 26,416 | 2,494 | 549 | 3,043 | 11.5 | 24,221 | 1,966 | 427 | 2,393 | 9.9 |
| January | 3,629 | 415 | ..... | 415 | 11.4 | 1,914 | 237 | ..... | 237 | 12.4 | 1,708 | 178 | ..... | 178 | 10.4 |
| February | 3,534 | 447 | 10 | 457 | 12.9 | 1,857 | 241 | 6 | 247 | 13.3 | 1,674 | 206 | 4 | 210 | 12.5 |
| March | 4,345 | 480 | 24 | 504 | 11.6 | 2,292 | 288 | 14 | 302 | 13.2 | 2,045 | 202 | 10 | 212 | 10.4 |
| April | 4,238 | 495 | 29 | 524 | 12.4 | 2,205 | 267 | 13 | 280 | 12.7 | 2,025 | 228 | 16 | 244 | 12.0 |
| May | 4,465 | 434 | 56 | 490 | 11.0 | 2,259 | 232 | 25 | 257 | 11.4 | 2,191 | 202 | 31 | 233 | 10.6 |
| June | 4,078 | 417 | 64 | 481 | 11.8 | 2,090 | 223 | 34 | 257 | 12.3 | 1,979 | 194 | 30 | 224 | 11.3 |
| July | 4,293 | 369 | 87 | 456 | 10.6 | 2,180 | 215 | 43 | 258 | 11.8 | 2,097 | 154 | 44 | 198 | 9.4 |
| August | 4,702 | 384 | 95 | 479 | 10.2 | 2,435 | 215 | 55 | 270 | 11.1 | 2,255 | 169 | 40 | 209 | 9.3 |
| September | 4,646 | 284 | 118 | 402 | 8.7 | 2,431 | 161 | 62 | 223 | 9.2 | 2,205 | 123 | 56 | 179 | 8.1 |
| October | 4,340 | 240 | 159 | 399 | 9.2 | 2,298 | 141 | 103 | 244 | 10.6 | 2,029 | 99 | 56 | 155 | 7.6 |
| November | 4,098 | 231 | 166 | 397 | 9.7 | 2,192 | 141 | 95 | 236 | 10.8 | 1,898 | 90 | 71 | 161 | 8.5 |
| December | 4,391 | 154 | 168 | 322 | 9.6 | 2,263 | 133 | 99 | 232 | 10.3 | 2,115 | 121 | 69 | 190 | 9.5 |

* Excluding 53 in unknown month; 23 males, 25 females and 5 unknown.

**Table 63.**—*Exhibiting, by sex, for the State and counties, the color of decedents, as returned for the year 1892.* (*Still-births included.*)

| State and counties. | All colors, 1892. | | | | White. | | | | Black. | | | | Mulatto. | | | | Indian. | | | | Unknown. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. |
| State | 21,729 | 11,837 | 9,809 | 83 | 21,395 | 11,659 | 9,679 | 57 | 137 | 79 | 58 | .. | 49 | 27 | 22 | .. | 93 | 54 | 39 | .. | 55 | 18 | 11 | 26 |
| Alcona | 40 | 23 | 17 | .. | 36 | 20 | 16 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 3 | 1 | .. | .. | .. | .. | .. |
| Alger | 10 | 7 | 3 | .. | 10 | 7 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Allegan | 356 | 192 | 163 | 1 | 353 | 191 | 161 | 1 | 1 | 1 | .. | .. | .. | .. | .. | .. | 2 | .. | 2 | .. | .. | .. | .. | .. |
| Alpena | 154 | 87 | 67 | .. | 154 | 87 | 67 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Antrim | 87 | 54 | 33 | .. | 85 | 52 | 33 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | .. | .. | .. | .. | .. | .. |
| Arenac | 51 | 31 | 20 | .. | 50 | 30 | 20 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. |
| Baraga | 41 | 26 | 15 | .. | 27 | 18 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 14 | [a]8 | [a]6 | .. | .. | .. | .. | .. |
| Barry | 164 | 93 | 71 | .. | 164 | 93 | 71 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Bay | 594 | 319 | 274 | 1 | 594 | 319 | 274 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Benzie | 53 | 34 | 19 | .. | 53 | 34 | 19 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Berrien | 314 | 160 | 154 | .. | 306 | 155 | 151 | .. | 6 | 4 | 2 | .. | 2 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Branch | 255 | 135 | 120 | .. | 254 | 134 | 120 | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Calhoun | 409 | 215 | 192 | 2 | 402 | 211 | 189 | 2 | 4 | 2 | 2 | .. | 1 | .. | 1 | .. | 2 | 2 | .. | .. | .. | .. | .. | .. |
| Cass | 175 | 100 | 75 | .. | 154 | 89 | 65 | .. | 13 | 7 | 6 | .. | 7 | 4 | 3 | .. | 1 | .. | 1 | .. | .. | .. | .. | .. |
| Charlevoix | 75 | 46 | 29 | .. | 74 | 45 | 29 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. |
| Cheboygan | 110 | 57 | 52 | 1 | 108 | 56 | 51 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 1 | .. | .. | .. | .. | .. |
| Chippewa | 98 | 55 | 43 | .. | 92 | 49 | 43 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | [b]6 | .. | .. | .. | .. | .. | .. |
| Clare | 45 | 25 | 20 | .. | 45 | 25 | 20 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Clinton | 241 | 123 | 118 | .. | 241 | 123 | 118 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Crawford | 23 | 9 | 14 | .. | 23 | 9 | 14 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Delta | 141 | 88 | 52 | 1 | 141 | 88 | 52 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Dickinson | 194 | 118 | 76 | .. | 192 | 117 | 75 | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. |
| Eaton | 288 | 148 | 140 | .. | 287 | 148 | 139 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. |
| Emmet | 64 | 30 | 34 | .. | 37 | 19 | 18 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 27 | 11 | 16 | .. | .. | .. | .. | .. |
| Genesee | 407 | 209 | 197 | 1 | 406 | 209 | 196 | 1 | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Gladwin | 13 | 7 | 6 | .. | 13 | 7 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Gogebic | 456 | 301 | 133 | 22 | 431 | 294 | 133 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 25 | 7 | .. | 18 |
| Grand Traverse | 136 | 78 | 56 | 2 | 135 | 78 | 56 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Gratiot | 188 | 96 | 91 | 1 | 188 | 96 | 91 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Hillsdale | 323 | 180 | 143 | .. | 322 | 180 | 142 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. |
| Houghton | 552 | 318 | 234 | .. | 552 | 318 | 234 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Huron | 225 | 130 | 94 | 1 | 225 | 130 | 94 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

[a] 1 male, 4 females white and Indian. [b] 2 males white and Indian.

**Table 63.—CONTINUED.—*Deaths by counties, sex and color.***

| Counties. | All colors, 1892. | | | | White. | | | | Black. | | | | Mulatto. | | | | Indian. | | | | Unknown. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. |
| Ingham | 386 | 204 | 179 | 3 | 381 | 202 | 176 | 3 | 5 | 2 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ionia | 265 | 141 | 123 | 1 | 265 | 141 | 123 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Iosco | 168 | 94 | 71 | 3 | 167 | 94 | 71 | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 |
| Iron | 62 | 42 | 19 | 1 | 62 | 42 | 19 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Isabella | 116 | 63 | 53 | -- | 111 | 58 | 53 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 5 | 5 | -- | -- | -- | -- | -- | -- |
| Jackson | 490 | 255 | 229 | 6 | 485 | 252 | 227 | 6 | 4 | 2 | 2 | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kalamazoo | 433 | 219 | 213 | 1 | 426 | 216 | 209 | 1 | 3 | 2 | 1 | -- | 4 | 1 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kalkaska | 48 | 19 | 29 | -- | 48 | 19 | 29 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Kent | 1,321 | 710 | 609 | 2 | 1,314 | 706 | 606 | 2 | 5 | 2 | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 2 | -- | -- |
| Keweenaw | 52 | 26 | 26 | -- | 52 | 26 | 26 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Lake | 28 | 17 | 11 | -- | 27 | 17 | 10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 | -- | -- | -- | -- | -- |
| Lapeer | 197 | 102 | 94 | 1 | 197 | 102 | 94 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Leelanau | 52 | 27 | 25 | -- | 48 | 24 | 24 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 | [a]3 | 1 | -- | -- | -- | -- | -- |
| Lenawee | 412 | 218 | 194 | -- | 406 | 214 | 192 | -- | 6 | 4 | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Livingston | 166 | 90 | 76 | -- | 165 | 89 | 76 | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Luce | 24 | 13 | 11 | -- | 24 | 13 | 11 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mackinac | 43 | 20 | 23 | -- | 38 | 16 | 22 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 | [a]3 | 1 | -- | 1 | 1 | -- | -- |
| Macomb | 335 | 197 | 138 | -- | 334 | 196 | 138 | -- | -- | -- | -- | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Manistee | 204 | 121 | 83 | -- | 201 | 119 | 82 | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 1 | 1 | -- |
| Manitou | 2 | 1 | 1 | -- | 2 | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Marquette | 574 | 346 | 228 | -- | 574 | 346 | 228 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Mason | 151 | 93 | 58 | -- | 150 | 93 | 57 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | 1 | -- | -- | -- | -- | -- |
| Mecosta | 126 | 74 | 52 | -- | 124 | 73 | 51 | -- | 1 | 1 | -- | -- | 1 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Menominee | 174 | 99 | 73 | 2 | 173 | 99 | 73 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | 1 |
| Midland | 89 | 44 | 45 | -- | 88 | 43 | 45 | -- | -- | -- | -- | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Missaukee | 47 | 26 | 21 | -- | 45 | 25 | 20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 | 1 | 1 | -- | -- | -- | -- | -- |
| Monroe | 296 | 151 | 145 | -- | 291 | 148 | 143 | -- | 4 | 2 | 2 | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Montcalm | 241 | 134 | 107 | -- | 238 | 132 | 106 | -- | 3 | 2 | 1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Montmorency | 6 | 4 | 2 | -- | 6 | 4 | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Muskegon | 449 | 225 | 217 | 7 | 447 | 225 | 215 | 7 | 2 | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Newaygo | 116 | 63 | 53 | -- | 113 | 60 | 53 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 | 3 | -- | -- | -- | -- | -- | -- |
| Oakland | 445 | 248 | 197 | -- | 436 | 245 | 191 | -- | 6 | 3 | 3 | -- | 3 | -- | 3 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Oceana | 87 | 49 | 38 | -- | 83 | 46 | 37 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 | 3 | 1 | -- | -- | -- | -- | -- |
| Ogemaw | 32 | 25 | 7 | -- | 32 | 25 | 7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Ontonagon | 20 | 9 | 11 | -- | 20 | 9 | 11 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

[a] 3 males white and Indian.

**Table 63.**—CONCLUDED.—*Deaths by counties, sex and color.*

| Counties. | All colors, 1892. | | | | White. | | | | Black. | | | | Mulatto. | | | | Indian. | | | | Unknown. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. |
| Osceola | 101 | 56 | 45 | .... | 101 | 56 | 45 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Oscoda | 12 | 5 | 7 | .... | 12 | 5 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Otsego | 33 | 18 | 15 | .... | 33 | 18 | 15 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ottawa | 351 | 173 | 174 | 4 | 343 | 170 | 170 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 3 | 4 | 1 |
| Presque Isle | 32 | 13 | 19 | .... | 32 | 13 | 19 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Roscommon | 13 | 9 | 4 | .... | 13 | 9 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Saginaw | 1,087 | 571 | 515 | 1 | 1,081 | 569 | 511 | 1 | .. | .. | .. | .. | 2 | 1 | 1 | .. | 4 | 1 | 3 | .. | .. | .. | .. | .. |
| Sanilac | 287 | 137 | 148 | 2 | 280 | 134 | 144 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 3 | 4 | .. |
| Schoolcraft | 46 | 27 | 19 | .... | 46 | 27 | 19 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Shiawassee | 184 | 104 | 80 | .... | 184 | 104 | 80 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| St. Clair | 575 | 297 | 278 | .... | 574 | 297 | 277 | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| St. Joseph | 315 | 145 | 170 | .... | 310 | 145 | 165 | .. | 5 | .. | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Tuscola | 219 | 107 | 108 | 4 | 217 | 107 | 107 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | 1 | .. | .. | 1 |
| Van Buren | 286 | 155 | 128 | 3 | 271 | 146 | 122 | 3 | 9 | 6 | 3 | .. | 5 | 3 | 2 | .. | 1 | .. | 1 | .. | .. | .. | .. | .. |
| Washtenaw | 436 | 233 | 202 | 1 | 421 | 222 | 198 | 1 | 5 | 4 | 1 | .. | 9 | 6 | 3 | .. | .. | .. | .. | .. | 1 | 1 | .. | .. |
| Wayne | 3,722 | 2,067 | 1,647 | 8 | 3,659 | 2,029 | 1,625 | 5 | 50 | 32 | 18 | .. | 10 | 6 | 4 | .. | .. | .. | .. | .. | 3 | .. | .. | 3 |
| Wexford | 91 | 57 | 34 | .... | 91 | 57 | 34 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

### COLOR AND RACE OF DECEDENTS. 1892.

Table 63 presents a detailed statement, by counties, of the deaths that occurred in 1892 of each color and race. Of the total number of decedents, 21,729, 21,395, or 98.46 per cent were white; 137, or .63 per cent black; 49 or .23 per cent mulatto; and 93 or .43 per cent Indian. There were also 55 deaths or .25 per cent of the total number in which the color was unspecified. As with births and marriages, the number and ratio of colored deaths is so small, and fluctuates so widely in different years from incidental causes, that minute comparison of the death-rates of the different colors and races for any single year is not advisable. In Table 11, Part I, the number of inhabitants of each color and race is given for the State as determined by the last United States census, and the number of marriages, persons married, births and deaths are also exhibited there in convenient form for comparison. Failure to specify color is almost certainly the result of neglect or carelessness on the part of the enumerator, since it is a fact that would be plainly in evidence if he had made a personal inquiry as required by law. Of the 55 deaths in which this return was not properly made, 25 occur in Gogebic county, which county, as noted on the following page, sent in very defective returns in other respects.

### NATIVITY OF DECEDENTS, 1892.

In Table 64 the number and proportion of decedents of each nativity during the year 1892 are compared with the corresponding figures for the years 1890 and 1891, and with the average for ten years from 1882 to 1891, inclusive. The per cent of deaths of native-born persons is slightly lower than the per cents for the two years preceding, and decidedly lower than the ten-year average. The per cent of deaths of foreign-born persons is higher for 1892 than for the years 1890, 1891 and the average, 1882–91. These changes may be regarded as dependent upon a lessened amount of immigration into this State in recent years, whereby the native-born population, constantly recruited by natural increase, would tend to show a diminished number of deaths; the foreign-born population, on the contrary, would show a greater average age every year and a consequently higher death-rate, the supply of young adults being lessened.

In corroboration of this view, Table 57 may be referred to, in which the average age at death of foreign-born decedents appears to have risen in recent years. The average age at death of all decedents of foreign birth was 52.6 years in 1892. In 1885 it was 49.9 years; in 1880, 47.7 years, and in 1875 it was 46.9 years. The death-rate of foreign-born inhabitants of Michigan in 1890 (see Table 66, Michigan Registration Report for 1891) was 9.1 per 1,000 foreign-born population; in 1884 the corresponding death-rate was 6.9. Of course 1890 was subject to an unusual amount of mortality in persons of advanced years from influenza, and other diseases influenced by its effects, but it is probable that an average year at present would show an increased death-rate in our foreign-born population over that of 1884, for example, owing to greater average age.

**Table 64.**—*Nativity of decedents in Michigan for the years 1890–92, and the average for ten years, 1882–91. (Still-births included.)*

| Nativity of decedents. | Deaths, 1890. | | Deaths, 1891. | | Deaths, 1892. | | Average for ten years, 1882–91. | |
|---|---|---|---|---|---|---|---|---|
| | Number. | Per cent of total. | Number. | Per cent of total. | Number. | Per cent of total. | Number. | Per cent of total. |
| All nativities | 21,642 | 100.0 | 22,079 | 100.0 | 21,729 | 100.0 | 19,150 | 100.0 |
| Native-born | 15,890 | 73.4 | 16,287 | 73.7 | 15,683 | 72.2 | 14,510 | 75.8 |
| Foreign-born | 4,908 | 22.7 | 4,811 | 21.8 | 4,915 | 22.6 | 3,974 | 20.8 |
| Unknown | 844 | 3.9 | 981 | 4.5 | 1,131 | 5.2 | 666 | 3.5 |

Table 65 shows the number of deaths of each nativity returned for each county of the State. The totals given may be compared, by sex, with the corresponding number of inhabitants in Michigan in 1890, as stated in Table 11, Part I, and the number of deaths of native-born and foreign-born persons may also be compared, by counties, with the inhabitants of each class as presented in Table 14, Part I. Great carelessness is apparent in certain counties in regard to the specification of nativity. This is especially true of Gogebic county, from which 152 deaths out of a total of 456 were returned unspecified. In other respects, statement of cause of death, name of parents, etc., the returns of this county were worthless for statistical or any other purpose, whole pages being filled up with "unknowns." There should be a provision of the law by which the returns made by supervisors should be examined by competent persons before they are accepted and *paid for*, and all such results of neglect or incompetency be promptly rejected and a correct enumeration made.

65. *Exhibiting, by number and by sex, for the State and counties, the nativity of decedents returned for the year 1892.* (*Still-births included.*)

| | All nativities, 1892. | | | | Native. | | | | Foreign. | | | Unknown. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Total. | Males. | Females. | Unknown. |
| | 21,729 | 11,587 | 9,809 | 83 | 15,683 | 8,357 | 7,271 | 55 | 4,915 | 2,823 | 2,092 | 1,131 | 657 | 446 | |
| | 40 | 23 | 17 | ... | 29 | 15 | 14 | ... | 9 | 7 | 2 | 2 | 1 | 1 | |
| | 10 | 7 | 3 | ... | 2 | 1 | 1 | ... | 7 | 5 | 2 | 1 | 1 | ..... | |
| | 356 | 192 | 163 | 1 | 277 | 150 | 126 | 1 | 59 | 31 | 28 | 20 | 11 | 9 | |
| | 154 | 87 | 67 | ... | 106 | 59 | 47 | ... | 36 | 22 | 14 | 12 | 6 | 6 | |
| | 87 | 54 | 33 | ... | 67 | 42 | 25 | ... | 19 | 12 | 7 | 1 | ..... | 1 | |
| | 51 | 31 | 20 | ... | 36 | 22 | 14 | ... | 15 | 9 | 6 | ..... | ..... | ..... | |
| | 41 | 26 | 15 | ... | 26 | 16 | 10 | ... | 14 | 9 | 5 | 1 | 1 | ..... | |
| | 164 | 93 | 71 | ... | 141 | 82 | 59 | ... | 17 | 8 | 9 | 6 | 3 | 3 | |
| | 594 | 319 | 274 | 1 | 438 | 233 | 204 | 1 | 151 | 83 | 68 | 5 | 3 | 2 | |
| | 53 | 34 | 19 | ... | 41 | 26 | 15 | ... | 12 | 8 | 4 | ..... | ..... | ..... | |
| | 314 | 160 | 154 | ... | 239 | 118 | 121 | ... | 53 | 26 | 27 | 22 | 16 | 6 | |
| | 255 | 135 | 120 | ... | 219 | 114 | 105 | ... | 29 | 14 | 15 | 7 | 7 | ..... | |
| | 409 | 215 | 192 | 2 | 317 | 166 | 149 | 2 | 77 | 39 | 38 | 15 | 10 | 5 | |
| | 175 | 100 | 75 | ... | 150 | 86 | 64 | ... | 14 | 8 | 6 | 11 | 6 | 5 | |
| | 75 | 46 | 29 | ... | 54 | 34 | 20 | ... | 16 | 10 | 6 | 5 | 2 | 3 | |
| | 110 | 57 | 52 | 1 | 92 | 48 | 43 | 1 | 16 | 7 | 9 | 2 | 2 | ..... | |
| | 98 | 55 | 43 | ... | 57 | 29 | 28 | ... | 34 | 21 | 13 | 7 | 5 | 2 | |
| | 45 | 25 | 20 | ... | 36 | 19 | 17 | ... | 9 | 6 | 3 | ..... | ..... | ..... | |
| | 241 | 123 | 118 | ... | 197 | 99 | 98 | ... | 33 | 18 | 15 | 11 | 6 | 5 | |
| | 23 | 9 | 14 | ... | 17 | 7 | 10 | ... | 3 | 2 | 1 | 3 | ..... | 3 | |
| | 141 | 88 | 52 | 1 | 92 | 54 | 37 | 1 | 46 | 33 | 13 | 3 | 1 | 2 | |
| | 194 | 118 | 76 | ... | 136 | 82 | 54 | ... | 51 | 32 | 19 | 7 | 4 | 3 | |
| | 288 | 148 | 140 | ... | 251 | 124 | 127 | ... | 18 | 12 | 6 | 19 | 12 | 7 | |
| | 64 | 30 | 34 | ... | 54 | 26 | 28 | ... | 9 | 4 | 5 | 1 | ..... | 1 | |
| | 407 | 209 | 197 | 1 | 329 | 163 | 165 | 1 | 67 | 39 | 28 | 11 | 7 | 4 | |
| | 13 | 7 | 6 | ... | 8 | 4 | 4 | ... | 4 | 2 | 2 | 1 | 1 | ..... | |
| | 456 | 301 | 133 | 22 | 190 | 104 | 85 | 1 | 114 | 86 | 28 | 152 | 111 | 20 | 21 |
| Traverse | 136 | 78 | 56 | 2 | 90 | 51 | 37 | 2 | 42 | 25 | 17 | 4 | 2 | 2 | |
| | 188 | 96 | 91 | 1 | 186 | 87 | 78 | 1 | 19 | 9 | 10 | 3 | ..... | 3 | |
| | 323 | 180 | 143 | ... | 271 | 148 | 123 | ... | 28 | 21 | 7 | 24 | 11 | 13 | |
| | 553 | 318 | 234 | ... | 444 | 252 | 192 | ... | 101 | 61 | 40 | 7 | 5 | 2 | |
| | 225 | 130 | 94 | 1 | 134 | 78 | 55 | 1 | 89 | 51 | 38 | 2 | 1 | 1 | |
| | 498 | 304 | 179 | 3 | 316 | 158 | 155 | 3 | 59 | 41 | 18 | 11 | 5 | 6 | |
| | 185 | 141 | 123 | 1 | 221 | 116 | 104 | 1 | 35 | 19 | 16 | 9 | 6 | 3 | |

**Table 65.**—CONTINUED.—*Deaths by counties, sex and nativity.*

| | All nativities, 1892. | | | | Native. | | | | Foreign. | | | Unknown. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ies. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Total. | Males. | Females. | Unknown. |
| ..... | 168 | 94 | 71 | 3 | 105 | 54 | 48 | 3 | 34 | 22 | 12 | 29 | 18 | 11 | ... |
| ..... | 62 | 42 | 19 | 1 | 33 | 21 | 11 | 1 | 18 | 13 | 5 | 11 | 8 | 3 | ... |
| ..... | 116 | 63 | 53 | ... | 96 | 51 | 45 | ... | 17 | 10 | 7 | 3 | 2 | 1 | ... |
| ..... | 490 | 255 | 229 | 6 | 392 | 201 | 185 | 6 | 83 | 47 | 36 | 15 | 7 | 8 | ... |
| ..... | 433 | 219 | 213 | 1 | 316 | 154 | 162 | ... | 86 | 49 | 37 | 31 | 16 | 14 | 1 |
| ..... | 48 | 19 | 29 | ... | 42 | 17 | 25 | ... | 4 | 1 | 3 | 2 | 1 | 1 | ... |
| ..... | 1,321 | 710 | 609 | 2 | 926 | 495 | 429 | 2 | 339 | 180 | 159 | 56 | 35 | 21 | ... |
| ..... | 52 | 26 | 26 | ... | 35 | 15 | 20 | ... | 17 | 11 | 6 | ..... | ..... | ..... | ... |
| ..... | 28 | 17 | 11 | ... | 20 | 13 | 7 | ... | 8 | 4 | 4 | ..... | ..... | ..... | ... |
| ..... | 197 | 102 | 94 | 1 | 139 | 72 | 67 | ... | 44 | 25 | 19 | 14 | 5 | 8 | 1 |
| ..... | 52 | 27 | 25 | ... | 35 | 20 | 15 | ... | 17 | 7 | 10 | ..... | ..... | ..... | ... |
| ..... | 412 | 218 | 194 | ... | 322 | 170 | 152 | ... | 68 | 38 | 30 | 22 | 10 | 12 | ... |
| ..... | 166 | 90 | 76 | ... | 132 | 68 | 64 | ... | 27 | 18 | 9 | 7 | 4 | 3 | ... |
| ..... | 24 | 13 | 11 | ... | 17 | 8 | 9 | ... | 5 | 3 | 2 | 2 | 2 | ..... | ... |
| ..... | 43 | 20 | 23 | ... | 33 | 15 | 18 | ... | 9 | 5 | 4 | 1 | ..... | 1 | ... |
| ..... | 335 | 197 | 138 | ... | 250 | 144 | 106 | ... | 83 | 51 | 32 | 2 | 2 | ..... | ... |
| ..... | 204 | 121 | 83 | ... | 144 | 82 | 62 | ... | 46 | 30 | 16 | 14 | 9 | 5 | ... |
| ..... | 2 | 1 | 1 | ... | 1 | ..... | 1 | ... | 1 | 1 | ..... | ..... | ..... | ..... | ... |
| ..... | 574 | 346 | 228 | ... | 390 | 223 | 167 | ... | 170 | 115 | 55 | 14 | 8 | 6 | ... |
| ..... | 151 | 93 | 58 | ... | 110 | 69 | 41 | ... | 38 | 22 | 16 | 3 | 2 | 1 | ... |
| ..... | 126 | 74 | 52 | ... | 98 | 59 | 39 | ... | 22 | 13 | 9 | 6 | 2 | 4 | ... |
| ..... | 174 | 99 | 73 | 2 | 136 | 74 | 60 | 2 | 36 | 23 | 13 | 2 | 2 | ..... | ... |
| ..... | 89 | 44 | 45 | ... | 71 | 31 | 40 | ... | 17 | 13 | 4 | 1 | ..... | 1 | ... |
| ..... | 47 | 26 | 21 | ... | 39 | 21 | 18 | ... | 7 | 4 | 3 | 1 | 1 | ..... | ... |
| ..... | 296 | 151 | 145 | ... | 230 | 113 | 117 | ... | 45 | 25 | 20 | 21 | 13 | 8 | ... |
| ..... | 241 | 134 | 107 | ... | 187 | 105 | 82 | ... | 38 | 22 | 16 | 16 | 7 | 9 | ... |
| cy..... | 6 | 4 | 2 | ... | 4 | 2 | 2 | ... | 1 | 1 | ..... | 1 | 1 | ..... | ... |
| ..... | 449 | 225 | 217 | 7 | 334 | 159 | 168 | 7 | 110 | 64 | 46 | 5 | 2 | 3 | ... |
| ..... | 116 | 63 | 53 | ... | 93 | 50 | 43 | ... | 22 | 12 | 10 | 1 | 1 | ..... | ... |
| ..... | 445 | 248 | 197 | ... | 319 | 178 | 141 | ... | 110 | 63 | 47 | 16 | 7 | 9 | ... |
| ..... | 87 | 49 | 38 | ... | 71 | 38 | 33 | ... | 12 | 8 | 4 | 4 | 3 | 1 | ... |
| ..... | 32 | 25 | 7 | ... | 18 | 15 | 3 | ... | 11 | 7 | 4 | 3 | 3 | ..... | ... |
| ..... | 20 | 9 | 11 | ... | 12 | 6 | 6 | ... | 8 | 3 | 5 | ..... | ..... | ..... | ... |
| ..... | 101 | 56 | 45 | ... | 75 | 36 | 39 | ... | 20 | 14 | 6 | 6 | 6 | ..... | ... |
| ..... | 12 | 5 | 7 | ... | 11 | 5 | 6 | ... | 1 | ... | 1 | ..... | ..... | ..... | ... |
| ..... | 33 | 18 | 15 | ... | 29 | 17 | 12 | ... | 4 | 1 | 3 | ..... | ..... | ..... | ... |

**Table 65.—CONCLUDED.—*Deaths by counties, sex and nativity.***

| Counties. | All nativities, 1892. | | | | Native. | | | | Foreign. | | | Unknown. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Unknown. | Total. | Males. | Females. | Total. | Males. | Females. |
| Ottawa | 351 | 173 | 174 | 4 | 231 | 114 | 114 | 3 | 115 | 57 | 58 | 5 | 2 | |
| Presque Isle | 32 | 13 | 19 | ... | 19 | 7 | 12 | ... | 13 | 6 | 7 | ... | ... | ... |
| Roscommon | 13 | 9 | 4 | ... | 9 | 6 | 3 | ... | 4 | 3 | 1 | ... | ... | ... |
| Saginaw | 1,087 | 571 | 515 | 1 | 663 | 358 | 304 | 1 | 315 | 153 | 162 | 109 | 60 | 4 |
| Sanilac | 287 | 137 | 148 | 2 | 163 | 70 | 91 | 2 | 118 | 62 | 56 | 6 | 5 | |
| Schoolcraft | 46 | 27 | 19 | ... | 29 | 16 | 13 | ... | 12 | 8 | 4 | 5 | 3 | |
| Shiawassee | 184 | 104 | 80 | ... | 158 | 92 | 66 | ... | 24 | 11 | 13 | 2 | 1 | |
| St. Clair | 575 | 297 | 278 | ... | 373 | 180 | 193 | ... | 193 | 111 | 82 | 9 | 6 | |
| St. Joseph | 315 | 145 | 170 | ... | 252 | 117 | 135 | ... | 34 | 18 | 16 | 29 | 10 | 1 |
| Tuscola | 219 | 107 | 108 | 4 | 137 | 73 | 64 | ... | 52 | 26 | 26 | 30 | 8 | 1 |
| Van Buren | 286 | 155 | 128 | 3 | 245 | 133 | 109 | 3 | 23 | 15 | 8 | 18 | 7 | 1 |
| Washtenaw | 436 | 233 | 202 | 1 | 303 | 158 | 144 | 1 | 116 | 68 | 48 | 17 | 7 | 1 |
| Wayne | 3,722 | 2,067 | 1,647 | 8 | 2,524 | 1,379 | 1,137 | 8 | 997 | 568 | 429 | 201 | 120 | 8 |
| Wexford | 91 | 57 | 34 | ... | 69 | 40 | 29 | ... | 16 | 12 | 4 | 6 | 5 | |

## DEATH-RATES BY NATIVITY AND PERIODS OF AGE.

Table 66 concludes the list of tables referring especially to occurrence of deaths a comparison of the number of deaths at different periods of age, by nativit decedents. The figures on population were estimated for 1892 by assuming the s rate of increase as in making the estimate for total population in Part I, the dats 1890 being that furnished this office by Acting Superintendent of the Census T Wardle, for the last report. The present table differs materially from the corresp ing one in the report for 1891 in that still-births are excluded. This exclusion af only the age-periods under 5 years, and, to a lesser degree, the rates for all ages an nativities and for the native-born at all ages.

As regards nativity, the death-rate appears to be higher for the native-born tha the foreign-born until the middle period of life is passed, when the reverse holds

The numbers representing the decedents of foreign nativity are small for the years of life and probably no reliable conclusions can be drawn without more exte investigation. The subject is worthy of more thorough study than has hitherto accorded it, and as a preliminary step the vague and indefinite term "foreign-b should be rejected and a detailed study be made by separate nationalities. The ch in vital rates consequent on the transplantation of German, Scandinavian and En stocks upon this soil are of far more importance than questions relating to the nu ically insignificant colored population of the State.

**Table 66.**—*Comparison of deaths in 1892, with estimated population of same nativity and periods of age, showing rates per thousand. (Still-births not included.)*

| Ages in periods of years. | Estimated population, 1892. | | | Deaths, 1892. | | | Death-rate per 1,000 population, 1892. | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total. | Native-born. | Foreign-born. | Total. | Native-born. | Foreign-born. | Total. | Native-born. | Foreign-born. |
| All ages | 2,185,279 | 1,612,645 | 572,635 | * 20,715 | 14,669 | 4,915 | 9.5 | 9.1 | 8.6 |
| Under 5 | 243,297 | 236,781 | 6,516 | 6,281 | 6,006 | 132 | 25.8 | 25.4 | 20.3 |
| 5 to 10 | 246,478 | 226,554 | 19,924 | 967 | 874 | 71 | 3.9 | 3.9 | 3.6 |
| 10 to 15 | 228,601 | 193,936 | 34,665 | 526 | 450 | 68 | 2.3 | 2.3 | 1.8 |
| 15 to 20 | 214,156 | 177,539 | 36,617 | 770 | 602 | 140 | 3.6 | 3.4 | 3.8 |
| 20 to 25 | 209,002 | 151,228 | 57,774 | 949 | 672 | 227 | 4.5 | 4.4 | 3.9 |
| 25 to 30 | 186,289 | 117,913 | 68,376 | 890 | 567 | 271 | 4.8 | 4.8 | 4.0 |
| 30 to 35 | 171,520 | 109,609 | 61,911 | 808 | 449 | 314 | 4.7 | 4.1 | 5.1 |
| 35 to 45 | 261,872 | 156,530 | 105,342 | 1,353 | 747 | 529 | 5.2 | 4.8 | 5.0 |
| 45 to 55 | 195,105 | 111,262 | 83,843 | 1,449 | 765 | 595 | 7.4 | 6.9 | 7.1 |
| 55 to 65 | 124,391 | 68,687 | 55,705 | 1,761 | 884 | 890 | 14.1 | 12.9 | 16.0 |
| All over 65 | 99,257 | 58,499 | 40,758 | 4,536 | 2,465 | 1,616 | 45.7 | 42.1 | 39.6 |
| Unknown | 5,312 | 4,108 | 1,205 | 425 | 188 | 67 | 80.0 | 45.8 | 55.6 |

* Including 1,131, deaths of unknown nativity.

## TOWNSHIPS REPORTING NO DEATHS, AND DELINQUENT TOWNSHIPS.

The list of townships whose supervisors reported that no deaths occurred in them during the calendar year 1892 is given in Table 67. The aggregate population (22,154) is considerably greater than that of the townships making such returns for 1891 (12,535), but it is undoubtedly true that deaths did occur in many of these townships and the supervisors neglected to enumerate them as required by law. Several of these townships show a population of over 1,000, and one of them, Laketon, Muskegon county, had 2,204 inhabitants in 1890.

A very marked improvement is shown in the list of entirely delinquent townships given in Table 68 over the corresponding list for 1891. The total population that did not report was, according to the census of 1890, 21,584. In 1891 the non-reporting population was 39,673. In many of the townships having very small populations it is not unlikely that no deaths occurred during the year, and hence only the negligence of the supervisors to state that fact to the county clerks brings them in this list of delinquents.

**Table 67.**—*List of townships from which it was reported that no deaths occurred in 1892, showing population in 1890.*

| County. | Township. | Population, 1890. | County. | Township. | Population, 1890. |
|---|---|---|---|---|---|
| Alcona | Mitchell | 88 | Mackinac | Marquette | 310 |
| Alger | Rock River | 328 | | Portage | 171 |
| Alpena | Sanborn | 204 | Marquette | Negaunee | 333 |
| Bay | Garfield | 147 | | Richmond | 1,182 |
| | Mt. Forest* | | | Turin | 100 |
| Charlevoix | Bear Lake | 190 | Mason | Hamlin | 85 |
| | Hudson | 118 | Mecosta | Fork | 570 |
| Cheboygan | Ellis | 159 | Midland | Greendale | 151 |
| | Forest | 161 | Missaukee | Bloomfield | 159 |
| Clare | Redding* | | Montmorency | Hillman | 535 |
| | Summerfield | 147 | | Montmorency | 177 |
| Crawford | Maple Forest | 316 | | Rust | 203 |
| Delta | Fairbanks | 740 | Muskegon | Laketon | 2,204 |
| | Sack Bay | 186 | Newaygo | Beaver | 409 |
| | Wells* | | | Croton | 706 |
| Dickinson | Breen | 138 | | Monroe | 1,066 |
| Emmet | Carp Lake | 236 | | Norwich | 910 |
| | Eggleston | 140 | Ontonagon | Carp Lake | 18 |
| | Littlefield | 343 | | Greenland | 272 |
| | Tobacco | 196 | | Greenwood | 131 |
| Gladwin | Buckeye | 581 | Oscoda | Mentor | 607 |
| | Gladwin | 683 | | Mt. Pindus | 107 |
| Gogebic | Marenisco | 225 | Otsego | Charlton | 149 |
| Houghton | Laird | 159 | Ottawa | Robinson | 510 |
| Iron | Bates | 594 | Presque Isle | Allis | 223 |
| Kalkaska | Glade | 188 | | Bismarck | 113 |
| Keweenaw | Houghton | 189 | | Metz | 267 |
| Lake | Cherry Valley | 801 | | Presque Isle | 219 |
| | Lake | 59 | Roscommon | Denton | 75 |
| Lapeer | Rich | 1,218 | | Gerrish | 66 |
| Leelanaw | Centreville | 927 | | Markey | 28 |
| Luce | Pentland | 347 | | Richfield | 76 |
| | | | St. Clair | Fort Gratiot | 774 |
| Total population of townships reporting "No deaths" | | | | | 22,154 |

* Not formed at time of census, 1890.

**Table 68.**—*List of townships from which no returns of deaths were received for 1892, showing population in 1890.*

| County. | Township. | Population, 1890. | County. | Township. | Population, 1890. |
|---|---|---|---|---|---|
| Arenac | Turner | 48 | Manitou | Peaine | 383 |
| Baraga | Arvon | 209 | | South Manitou | 74 |
| Benzie | Weldon | 97 | Menominee | Nadeau ‖ | 1,525 |
| Chippewa | Pickford ‖ | 993 | Montcalm | Day | 1,787 |
| | Trout Lake | 112 | Oceana | Otto | 157 |
| | White Fish | 251 | Ogemaw | Beaver Lake | 284 |
| Clare | Franklin | 545 | | Foster | 167 |
| | Hamilton | 508 | | Hill | 47 |
| Crawford | Blaine | 51 | | Klacking | 291 |
| | Center Plains | 202 | | Logan | 59 |
| | Frederick | 260 | | Mills | 66 |
| | Grove | 204 | | Rose | 211 |
| | South Branch | 106 | Ontonagon | Bohemia | 92 |
| Gladwin | Bentley * | ---- | | Ontonagon | 1,564 |
| | City of Gladw'n | 903 | Otsego | Otsego Lake | 641 |
| Grand Traverse | Acme * | ---- | Sanilac | Moore | 883 |
| Gratiot | Ithaca | 1,768 | Schoolcraft | Germfask † | 148 |
| Iosco | Burleigh | 443 | | Inwood * | ---- |
| | Grant | 149 | | Thompson | 931 |
| | Reno | 358 | Wayne | Huron § | 1,960 |
| | Wilber | 299 | Wexford | Antioch | 470 |
| Livingston | Marion ‡ | 1,146 | | | |
| | Putnam | 1,242 | | | |
| Total population of delinquent townships | | | | | 21,584 |

* Not formed at time of census, 1890.
† Returns received too late for compilation in this report.
‡ No enumeration on account of death of supervisor.
§ Supervisor states that return was made to the county clerk.
‖ Supervisor does not remember whether any deaths occurred or not.

## SECTION II.—CAUSES OF DEATH IN MICHIGAN DURING THE YEAR 1892.

The tables in this section of the report are designed to exhibit the particulars in regard to the mortality in Michigan for the year 1892 with especial reference to the individual causes of death, so far as the returns afford information on this point. It is well ascertained that not all of the deaths that annually occur in Michigan are enumerated by the supervisors. It has been estimated that should the number of deaths actually returned be increased by 60 per cent of itself, the result would probably not exceed the actual number of deaths that occurred. This percentage of omissions is known to be somewhat irregularly distributed through the year, the early months most distant from the date of enumeration being the most deficient. It is evident that the individual causes of death share in this deficiency of enumeration, and, on the average, each should be increased by about the same percentage as total deaths in order to give the entire number of deaths. Certain diseases, as cholera infantum, whose incidence is mostly in the latter months of the year, are more fully returned than others, like measles or scarlet fever, which occur chiefly in the spring.

The original statements of the causes of death are made by the supervisors or assessors on the authority of the families or friends of the deceased persons, and are not based, as a rule, upon the death-certificates of the medical attendants. A very large percentage of deaths is returned with the cause of death entirely unspecified or stated to be "unknown," while many of the specified causes included in the tables are so indefinite as to afford no accurate information in regard to the diseases that caused death. Such are the deaths returned as due to "lung trouble," "brain difficulty," "kidney complaint," "heart failure" (no less than 368 of these in 1892, few of which were probably actual heart disease), "convulsions," "dropsy" of various organs, "fever" (unspecified as to its nature), "old age," "debility," etc., etc. The best that can be done with such statements is to classify such of them as admit of it under the organ affected, and to remember that the deaths reported from definitely specified causes would be increased somewhat if the nature of the diseases included in these indefinite returns could be ascertained.

The present system of enumeration of deaths in Michigan not only fails to obtain a large percentage of the deaths that actually occur, and to state definitely the causes of death in the cases of a large number of those decedents that are returned, but even the definite statements made by the enumerators are open to more or less question. They have no medical knowledge, as a class, and are not able to intelligently scrutinize the statements made to them by interested parties,—the families or friends of decedents. In many cases the facts required are not definitely remembered by the family; the physician's diagnosis is misunderstood or forgotten, and a worthless or misleading statement is made. The remedy for these defects in the present registration law is a very simple one, and one that is already in practical operation in many cities of the State under local regulations (see Part V), namely, the requirement of a certificate of death from the medical attendant and the issue of a permit for burial or for the removal of the body in the case of every death that occurs in this State, city and country alike. Without such permit from the township, village or city authority empowered to issue the same, no burial or removal for burial in another State should be permitted under [illegible]

The most important causes of death from a practical standpoint are those that the State Board of Health is endeavoring to restrict,—the "communicable diseases dangerous to the public health" as defined by law. Especial prominence is given to these in the tables in this section of the report, and in the following summary the numbers and percentages to total deaths from all specified diseases are stated for the leading ones:—

SUMMARY OF REGISTRATION OF CAUSES OF DEATH, 1892.*

| | |
|---|---|
| **Deaths from all causes,** | **21,729** |
| **Death-rate per 100,000 estimated population,** | **994.3** |
| **(Actual number of deaths from all causes, estimated at,** | **34,766** |
| **Actual death-rate, all causes, per 100,000 population estimated at,** | **1,590.9)** |

In the above statement of deaths from all causes, still-births are included to the number of 1,014. Excluding these, as is customary in most mortality reports, we have:—

| | |
|---|---|
| **Deaths from all causes, still-births excluded.** | **20,715** |
| **Death-rate per 100,000, still-births excluded,** | **947.9** |

Excluding deaths from violence (accidental, 1,020; suicidal, 107; homicidal, 17; see Table 82 for full particulars in regard to this class), 1,144; still-births (see Table 22, *et seq.*, Part II), 1,014; premature births, 78; and deaths of which the causes were unknown or unspecified, 1,915, we have:—

| | |
|---|---|
| **Deaths from specified diseases,** | **17,578** |

Even this number contains many deaths the causes of which are practically unspecified, as "old age," "debility," etc., but such deaths can be certainly ascribed to disease. The total thus obtained makes a more satisfactory basis of reference for stating the proportion of deaths from any specified cause than the grand total inclusive of deaths from violence, still-births, and "unknown" causes. Thus we have:—

| | |
|---|---|
| **Deaths from communicable diseases dangerous to the public health,** | **5,029 or 28.6 per cent.** |

This number includes only those at present so defined by the State Board of Health. It will probably eventually include all specific infectious diseases. The principal diseases now included are:—

| | | | |
|---|---|---|---|
| **Consumption,** | **2,080** | **11.8** | **per cent.** |
| **Diphtheria and croup,** | **1,311** | **7.5** | **" "** |
| **Typhoid fever,** | **626** | **3.6** | **" "** |
| **Scarlet fever,** | **442** | **2.5** | **" "** |
| **Whooping-cough,** | **147** | **.8** | **" "** |
| **Measles,** | **72** | **.4** | **" "** |

Certain diseases and groups of diseases of special importance are:—

| | | | |
|---|---|---|---|
| **Cancer,** | **558** | **3.2** | **per cent.** |
| **Influenza,** | **907** | **5.2** | **" "** |
| **Pneumonia,** | **1,298** | **7.4** | **" "** |
| **Lung diseases (including pneumonia and consumption),** | **3,845** | **21.9** | **" "** |
| **Bowel diseases,** | **1,631** | **9.3** | **" "** |
| **Brain diseases,** | **1,534** | **8.7** | **" "** |
| **Heart diseases (not including "heart failure,")** | **961** | **5.5** | **" "** |

* See summary of registration of deaths (occurrence by months, sex, age, color and nativity of decedents) on p. 165.

## PRELIMINARY REMARKS ON TABLES OF CAUSES OF DEATH.

The following tables are arranged to show as clearly as possible the facts concerning the causes of death *as returned;* it is impracticable to attempt to apply any graduated correction in order to bring out more clearly the relations of the mortality from various diseases to meteorological conditions in the several months, or to attempt to estimate the actual numbers of deaths from different diseases, the factor of correction being variable, as already stated, owing to the different distribution of different diseases through the year. All subsequent statements must be taken with some allowance, it being understood that they are true only so far as our present returns may be depended upon.

In Table 69 the relative numbers of deaths of each sex from the diseases included may be considered as approximately correct upon the hypothesis that the deaths returned are fairly representative of the whole number that occurred. So, also, the distribution of the deaths from each cause by periods of age of decedents, as given in this table, is probably reliable. The distribution of deaths by months is not reliable, the early months of the year being not so completely returned as the latter months. In Table 70 the relative numbers of deaths from each disease to total deaths from disease in each county may be accepted, with some reservations on account of more careful enumeration of causes of death in certain localities. Thus, in counties containing cities in which burial permits are required, the use of such permits by the assessors in making their returns would lead to more accurate results than where the returns are based on the ordinary enumeration. The total numbers of deaths from all causes and from each specified cause are far below the truth in all of the tables in this and in all previous reports. Comparisons may, nevertheless, be made with previous years (as in Table 71) and much information of value be obtained in regard to the variations in the death-rates of different diseases from year to year on the assumption that the percentage of omissions has remained fairly constant. But any direct comparisons of the deaths returned in Michigan with those returned in other States in which systems of accurate registration of vital statistics are in force, are inadmissible.

In the synopsis on the opposite page, the tables in this section will be seen to be divided into two groups:—(1) tables relating to the important diseases returned as causes of death for the year; and (2) deaths from violence. An important feature of Tables 69 and 70 is that they present the deaths from important diseases by sex, months of death and periods of age of decedents, and also as distributed among the counties of the State, according to a single system of classification. In previous reports a double arrangement has been used, Dr. Farr's original system for the table showing distribution by counties, and an alphabetical list for sex, months and ages. This caused discrepancies to appear in the statements made in different tables of the same report in regard to the mortality from various diseases, and rendered advisable the adoption of some simpler system, as exemplified in Tables 69 and 70, in which the same term should always refer to the same disease.

It is well settled that tables of mortality should show not only the total number of deaths from each disease in each month and age-period, but should also show it with distinction of sex. Table 69 is not theoretically complete in this respect, but is left intentionally so for the sake of greater compactness, and because these statements by sex may be found in the old alphabetical list (Table 90), which is retained for the purpose of comparison with previous years.

Table 71 has been condensed from the alphabetical lists given in the registration reports for the years 1873, 1879, 1885 and 1891, and will be found more valuable for comparison in some respects than the table given in the last report for a series of years, that being based upon the nosological arrangement of each year. The inclusion of terms in these tables, together with some discussion of their contents, will be found in the text beginning on page 184.

*Synopsis of tables relating to causes of death.*

| Table. | Causes of death in Michigan, 1892. |
|---|---|
| | A.—*Diseases returned as causes of death, 1892.* |
| 69. | **Important diseases returned as causes of death in Michigan during the year 1892, by sex, months of death and periods of age.** |
| 70. | **Important diseases returned as causes of death in Michigan during the year 1892, by counties.** |
| 71. | **Important diseases returned as causes of death in Michigan for each of the years 1869-92, inclusive.** |
| 72. | Geographical divisions of the State used in the study of the distribution of causes of death. Accompanied by map. |
| 73. | Deaths from "old age" and deaths of persons aged under 5 years and over 70 years, by geographical divisions, 1892. |
| | Certain important diseases returned as causes of deaths in 1892, by geographical divisions:— |
| 74. | Consumption, pneumonia, influenza, diphtheria, croup, scarlet fever, typhoid fever and diarrheal diseases. |
| 75. | Deaths from cancer returned for the year 1892 and for the twenty years, 1872-91, specifying sex and organs affected. With note on deaths from "tumor," 1892. |
| | *Comparative mortality of Michigan and other States.* |
| 76. | Comparative mortality from all causes in Michigan and in certain States and foreign countries for the years 1880-92, inclusive. Diagram. |
| 77. | Comparative mortality from certain specified causes of death in Michigan, Massachusetts and England, by five-year periods, 1871-90. |
| 78. | Comparative mortality from consumption in Michigan, certain other States and England for the years 1880-92. |
| 79. | Comparative mortality from diphtheria and croup in Michigan, certain other States and England for the years 1880-92. |
| 80 | Comparative mortality from typhoid fever in Michigan, certain other States and England for the years 1880-92. |
| 81. | Comparative mortality from scarlet fever in Michigan, certain other States and England for the years 1880-92. |
| | B.—*Deaths from violence, 1892.* |
| 82. | **Deaths from violence in Michigan during the year 1892, classified.** |
| 83. | **Deaths from violence in Michigan in 1892, by counties.** |
| 84. | Deaths from suicide in Michigan, 1874-92, showing months of death, sex and civil condition of decedents. |
| 85. | Deaths from suicide in Michigan, 1874-92, showing (*a*) occupations; (*b*) nativities; and (*c*) means of death used. |
| | *Old classified and alphabetical tables of causes of death.* |
| 86. | Number and per cent of deaths returned from each class of causes (Dr. Farr's classification), 1890-92; with average for ten years, 1882-91. |
| 87. | Number of deaths returned from each class of causes for each month of the year 1892. |
| 88. | Deaths by geographical divisions:—Number and rate per 1,000 population, and percentage of each class of causes to total deaths from all causes for each division of the State, 1892. |
| 89. | Causes of death in Michigan, 1871-92:—*Classified Arrangement* (Dr. Farr's) comparing the deaths returned and death-rates per 100,000 population from each cause, order and class in 1892 with the corresponding figures for 1891, and for the five-year periods 1871-75, 1876-80, 1881-85, 1886-90. |
| 90. | Causes of death in Michigan, 1887-92:—*Alphabetical List* of causes of death as returned, showing months of death and periods of age of decedents, by sex, for 1892, and total deaths from each cause, by sex, for the years 1887-91. |

**Table 69.**—CONCLUDED.—*Important* ***diseases returned as causes of***

| Line number. | Causes of death, 1892. | Total deaths, 1892. | Sex. | | | Months of death, 1892. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Males. | Females. | Unk. | Jan. | Feb. | March. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Unk. |
| 37 | *Brain diseases* | *1,534* | *886* | *648* | .. | *132* | *95* | *120* | *147* | *114* | *105* | *136* | *147* | *135* | *143* | *107* | *151* | *2* |
| 38 | Apoplexy | 219 | 117 | 102 | .. | 23 | 5 | 14 | 15 | 15 | 16 | 18 | 24 | 20 | 20 | 21 | 28 | .. |
| 39 | Brain, Congestion of | 68 | 38 | 30 | .. | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 9 | 6 | 7 | 2 | 7 | .. |
| 40 | Brain, Inflammation of | 292 | 174 | 118 | .. | 22 | 19 | 23 | 31 | 28 | 21 | 31 | 28 | 25 | 28 | 20 | 15 | 1 |
| 41 | Epilepsy | 62 | 41 | 21 | .. | 6 | 4 | 4 | 11 | 1 | 3 | 6 | 8 | 7 | 5 | 1 | 6 | .. |
| 42 | Meningitis | 148 | 87 | 61 | .. | 13 | 11 | 14 | 13 | 13 | 4 | 19 | 19 | 13 | 6 | 7 | 16 | .. |
| 43 | Paralysis | 571 | 324 | 247 | .. | 53 | 37 | 44 | 54 | 40 | 38 | 45 | 47 | 50 | 56 | 40 | 66 | 1 |
| 44 | Brain disease, etc. | 174 | 105 | 69 | .. | 11 | 15 | 16 | 17 | 11 | 17 | 11 | 12 | 14 | 21 | 16 | 13 | .. |
| 45 | Cancer | 558 | 246 | 312 | .. | 44 | 31 | 35 | 40 | 50 | 48 | 34 | 60 | 43 | 54 | 61 | 58 | .. |
| 46 | Tumor | 139 | 36 | 103 | .. | 12 | 15 | 13 | 9 | 10 | 13 | 6 | 7 | 11 | 14 | 12 | 17 | .. |
| 47 | Childbirth | 244 | ..... | 244 | .. | 20 | 21 | 19 | 27 | 19 | 26 | 20 | 12 | 17 | 19 | 13 | 31 | .. |
| 48 | Convulsions | 548 | 321 | 225 | 2 | 52 | 46 | 49 | 48 | 55 | 41 | 47 | 53 | 46 | 30 | 30 | 51 | .. |
| 49 | Diabetes | 69 | 38 | 31 | .. | 8 | 5 | 6 | 3 | 6 | 5 | 1 | 2 | 7 | 6 | 9 | 11 | .. |
| 50 | Dropsy | 389 | 179 | 210 | .. | 17 | 27 | 25 | 38 | 28 | 34 | 35 | 34 | 32 | 29 | 39 | 51 | .. |
| 51 | Fever | 129 | 64 | 65 | .. | 7 | 4 | 10 | 10 | 7 | 7 | 7 | 14 | 13 | 26 | 8 | 15 | 1 |
| 52 | Fever, Malarial | 146 | 73 | 73 | .. | 5 | 6 | 7 | 15 | 11 | 8 | 12 | 20 | 19 | 13 | 18 | 12 | .. |
| 53 | *Heart diseases* | *1,329* | *716* | *612* | *1* | *120* | *101* | *108* | *125* | *129* | *86* | *97* | *94* | *90* | *123* | *131* | *124* | *1* |
| 54 | Pericarditis | 97 | 52 | 45 | .. | 6 | 3 | 6 | 5 | 15 | 11 | 8 | 11 | 8 | 2 | 8 | 14 | .. |
| 55 | Heart disease, etc. | 864 | 469 | 395 | .. | 69 | 74 | 75 | 81 | 81 | 55 | 62 | 56 | 60 | 83 | 90 | 77 | 1 |
| 56 | "Heart failure" | 368 | 195 | 172 | 1 | 45 | 24 | 27 | 39 | 33 | 20 | 27 | 27 | 22 | 38 | 33 | 33 | .. |
| 57 | Influenza | 907 | 478 | 429 | .. | 351 | 209 | 99 | 58 | 35 | 24 | 18 | 19 | 17 | 19 | 30 | 28 | .. |
| 58 | *Kidney diseases* | *442* | *323* | *119* | .. | *41* | *41* | *35* | *32* | *43* | *32* | *31* | *33* | *34* | *40* | *39* | *41* | .. |
| 59 | Kidneys, Inflammat'n of | 332 | 241 | 91 | .. | 35 | 30 | 27 | 27 | 30 | 27 | 24 | 20 | 26 | 29 | 27 | 30 | .. |
| 60 | Kidney disease, etc. | 110 | 82 | 28 | .. | 6 | 11 | 8 | 5 | 13 | 5 | 7 | 13 | 8 | 11 | 12 | 11 | .. |
| 61 | Liver disease, etc. | 121 | 54 | 67 | .. | 9 | 9 | 10 | 12 | 15 | 12 | 9 | 10 | 8 | 11 | 9 | 7 | .. |
| 62 | *Lung diseases* | *1,765* | *1,008* | *756* | *1* | *353* | *209* | *174* | *177* | *134* | *90* | *80* | *66* | *87* | *106* | *131* | *156* | *2* |
| 63 | Asthma | 65 | 39 | 26 | .. | 12 | 6 | 5 | 7 | 4 | 5 | 4 | 2 | 4 | 7 | 3 | 6 | .. |
| 64 | Bronchitis | 184 | 103 | 81 | .. | 25 | 16 | 21 | 23 | 17 | 8 | 6 | 11 | 12 | 11 | 19 | 15 | .. |
| 65 | Pleurisy | 30 | 17 | 13 | .. | 7 | 3 | 4 | 2 | 3 | 1 | .... | .... | 2 | 2 | 5 | 1 | .. |
| 66 | Pneumonia | 1,298 | 736 | 561 | 1 | 285 | 168 | 122 | 133 | 91 | 66 | 60 | 43 | 50 | 71 | 91 | 116 | 2 |
| 67 | Lungs, Congestion of | 87 | 48 | 39 | .. | 17 | 9 | 10 | 4 | 6 | 3 | 3 | 3 | 6 | 7 | 9 | 10 | .. |
| 68 | Lung disease, etc. | 101 | 65 | 36 | .. | 7 | 7 | 12 | 8 | 13 | 7 | 7 | 7 | 13 | 8 | 4 | 8 | .. |
| 69 | Rheumatism | 149 | 76 | 73 | .. | 15 | 13 | 9 | 15 | 18 | 8 | 11 | 12 | 13 | 12 | 11 | 12 | .. |
| 70 | Septicæmia | 167 | 80 | 87 | .. | 15 | 18 | 18 | 18 | 15 | 7 | 11 | 15 | 9 | 16 | 7 | 18 | .. |
| 71 | Spine disease, etc. | 94 | 48 | 46 | .. | 4 | 4 | 7 | 7 | 13 | 11 | 4 | 4 | 15 | 9 | 8 | 8 | .. |
| 72 | *Stomach diseases* | *178* | *97* | *81* | .. | *16* | *10* | *15* | *18* | *9* | *8* | *10* | *25* | *21* | *17* | *10* | *19* | .. |
| 73 | Stomach, Inflammat'n of | 53 | 27 | 26 | .. | 6 | 5 | 5 | 8 | 4 | .... | 5 | 8 | 5 | 1 | 1 | 5 | .. |
| 74 | Stomach disease, etc. | 125 | 70 | 55 | .. | 10 | 5 | 10 | 10 | 5 | 8 | 5 | 17 | 16 | 16 | 9 | 14 | .. |
| 75 | Syphilis | 11 | 7 | 4 | .. | 1 | 1 | .... | 3 | .... | 1 | 1 | .... | 1 | .... | 2 | 1 | .. |
| 76 | " ed | 1,949 | 1,022 | 926 | 1 | 179 | 151 | 157 | 189 | 142 | 107 | 157 | 150 | 153 | 194 | 179 | 182 | 8 |

*death in Michigan, 1892, by sex, months of death and periods of age.*

Ages of decedents, by five-year periods, 1892.

| Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unk. | Line number. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 367 | 57 | 26 | 48 | 31 | 26 | 37 | 51 | 44 | 64 | 61 | 78 | 125 | 135 | 130 | 119 | 114 | 21 | 37 |
| 3 | 1 | ---- | 2 | 3 | 2 | 2 | 7 | 5 | 15 | 19 | 24 | 32 | 33 | 25 | 22 | 20 | 4 | 38 |
| 36 | 2 | 2 | 5 | 5 | 3 | 1 | 2 | 1 | 6 | ------ | 1 | 1 | ------ | 1 | 2 | ------ | ---- | 39 |
| 194 | 28 | 8 | 13 | 6 | 3 | 9 | 1 | 7 | 4 | 7 | 3 | 1 | 3 | ------ | 2 | 2 | 1 | 40 |
| 7 | 1 | 2 | 5 | 10 | 4 | 6 | 7 | 1 | 5 | 3 | 1 | 3 | 2 | 2 | 1 | 1 | 1 | 41 |
| 91 | 16 | 10 | 10 | 1 | 2 | 3 | 3 | 1 | ------ | 2 | 2 | 2 | ------ | 2 | ------ | ------ | 3 | 42 |
| 11 | 2 | 1 | 6 | 3 | 7 | 7 | 14 | 15 | 24 | 22 | 34 | 68 | 83 | 90 | 87 | 87 | 10 | 43 |
| 25 | 7 | 3 | 7 | 3 | 5 | 9 | 17 | 11 | 10 | 8 | 13 | 18 | 14 | 10 | 5 | 4 | 2 | 44 |
| 4 | 1 | 2 | 2 | 4 | 7 | 13 | 24 | 33 | 54 | 70 | 83 | 68 | 59 | 65 | 32 | 33 | 4 | 45 |
| 7 | 4 | 2 | 1 | 6 | 11 | 13 | 12 | 14 | 12 | 6 | 12 | 13 | 6 | 7 | 6 | 4 | 3 | 46 |
| ------ | ---- | ---- | 19 | 49 | 53 | 43 | 46 | 25 | 4 | 1 | ------ | ------ | ------ | ------ | ------ | ------ | 4 | 47 |
| 501 | 10 | 6 | 2 | 4 | 4 | 5 | 2 | 2 | ------ | 2 | 1 | ------ | ------ | 1 | 1 | 1 | 6 | 48 |
| 1 | 6 | 8 | 5 | 1 | 2 | 1 | 2 | 2 | ------ | 8 | 8 | 4 | 7 | 6 | 5 | 2 | 1 | 49 |
| 16 | 10 | 5 | 8 | 8 | 12 | 6 | 15 | 17 | 23 | 22 | 33 | 41 | 58 | 46 | 34 | 31 | 4 | 50 |
| 46 | 3 | 6 | 9 | 15 | 11 | 4 | 5 | 5 | 4 | 1 | 1 | 6 | 3 | 2 | 2 | 1 | 5 | 51 |
| 35 | 14 | 8 | 13 | 8 | 12 | 13 | 7 | 7 | 5 | 2 | 6 | 5 | 4 | 2 | 3 | 1 | 1 | 52 |
| 62 | 15 | 21 | 34 | 34 | 30 | 43 | 46 | 56 | 81 | 88 | 118 | 146 | 166 | 172 | 112 | 84 | 21 | 53 |
| 3 | 2 | 2 | ---- | ---- | 2 | 3 | 3 | 3 | 6 | 6 | 11 | 8 | 20 | 14 | 5 | 6 | 3 | 54 |
| 40 | 8 | 16 | 30 | 26 | 21 | 25 | 26 | 44 | 51 | 59 | 80 | 98 | 108 | 102 | 73 | 43 | 14 | 55 |
| 19 | 5 | 3 | 4 | 8 | 7 | 15 | 17 | 9 | 24 | 23 | 27 | 40 | 38 | 56 | 34 | 35 | 4 | 56 |
| 125 | 12 | 13 | 19 | 15 | 16 | 16 | 30 | 30 | 26 | 48 | 36 | 66 | 86 | 99 | 135 | 130 | 5 | 57 |
| 14 | 10 | 3 | 6 | 23 | 18 | 19 | 16 | 15 | 23 | 28 | 54 | 52 | 48 | 51 | 39 | 35 | 8 | 58 |
| 7 | 7 | 2 | 6 | 18 | 14 | 13 | 14 | 13 | 15 | 23 | 25 | 42 | 41 | 38 | 29 | 19 | 6 | 59 |
| 7 | 3 | 1 | ---- | 5 | 4 | 6 | 2 | 2 | 8 | 5 | 9 | 10 | 7 | 13 | 10 | 16 | 2 | 60 |
| 6 | 4 | ---- | 1 | 3 | 3 | 6 | 5 | 5 | 15 | 8 | 13 | 16 | 20 | 7 | 6 | 2 | 1 | 61 |
| 625 | 47 | 25 | 57 | 51 | 60 | 61 | 46 | 40 | 67 | 66 | 92 | 110 | 113 | 114 | 82 | 89 | 20 | 62 |
| ------ | ---- | ---- | ---- | ---- | 1 | ---- | ------ | 2 | 2 | 4 | 6 | 13 | 6 | 13 | 11 | 7 | ---- | 63 |
| 114 | 3 | ---- | ---- | 4 | 4 | 4 | 4 | 1 | 3 | 2 | 6 | 7 | 5 | 11 | 6 | 7 | 3 | 64 |
| 6 | ---- | 1 | ---- | 1 | 1 | 2 | 1 | 1 | 4 | ------ | 2 | 3 | 2 | 2 | ---- | 2 | 2 | 65 |
| 436 | 35 | 22 | 53 | 41 | 48 | 46 | 33 | 32 | 50 | 48 | 69 | 80 | 89 | 76 | 61 | 65 | 14 | 66 |
| 41 | 3 | ---- | 1 | 2 | 2 | 2 | 3 | 1 | 4 | 4 | 5 | 3 | 7 | 3 | 1 | 4 | 1 | 67 |
| 28 | 6 | 2 | 3 | 3 | 4 | 7 | 5 | 3 | 4 | 8 | 4 | 4 | 4 | 9 | 3 | 4 | ---- | 68 |
| 4 | 6 | 12 | 7 | 4 | 6 | 7 | 4 | 6 | 11 | 9 | 11 | 17 | 14 | 14 | 9 | 4 | 4 | 69 |
| 19 | 4 | 3 | 7 | 14 | 20 | 17 | 11 | 8 | 11 | 9 | 7 | 3 | 11 | 9 | 10 | 2 | 2 | 70 |
| 46 | 10 | 5 | 6 | 3 | 3 | 3 | ------ | 3 | 1 | 2 | 1 | 4 | 3 | 2 | 1 | 1 | ---- | 71 |
| 37 | ---- | 3 | 2 | 5 | 1 | 7 | 9 | 6 | 14 | 12 | 10 | 20 | 18 | 17 | 11 | 6 | ---- | 72 |
| 9 | ---- | 3 | ---- | 2 | 1 | 3 | 2 | 2 | 4 | 4 | 2 | 6 | 5 | 5 | 4 | 1 | ---- | 73 |
| 28 | ---- | ---- | 2 | 3 | ------ | 4 | 7 | 4 | 10 | 8 | 8 | 14 | 13 | 12 | 7 | 5 | ---- | 74 |
| 4 | ---- | ---- | ---- | 1 | 2 | ------ | ------ | ------ | ------ | 1 | 1 | 2 | ------ | ------ | ------ | ------ | ---- | 75 |
| 384 | 17 | 13 | 18 | 25 | 24 | 30 | 30 | 29 | 29 | 41 | 29 | 36 | 75 | 177 | 212 | 693 | 27 | 76 |

**Table 70.**—*Important diseases and groups of diseases returned as causes of*

| Line number. | Causes of death, 1892. | State. | Counties—Alcona | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Alcona. | Alger. | Allegan. | Alpena. | Antrim. | Arenac. | Baraga. | Barry. | Bay. | Benzie. | Berrien. | Branch. | Calhoun. | Cass. | Charlevoix. | Cheboygan. |
| 1 | TOTAL DEATHS | 21,729 | 40 | 10 | 356 | 154 | 87 | 51 | 41 | 164 | 594 | 53 | 314 | 255 | 409 | 175 | 75 | 110 |
| 2 | SPECIFIED DISEASES | 17,578 | 27 | 6 | 302 | 96 | 70 | 40 | 36 | 132 | 456 | 39 | 255 | 238 | 341 | 156 | 53 | 83 |
| 3 | *Dangerous Communicable Diseases* | *5,029* | *7* | .. | *74* | *31* | *15* | *21* | *14* | *28* | *169* | *13* | *52* | *52* | *75* | *41* | *7* | *30* |
| 4 | Consumption | 2,080 | 1 | .. | 29 | 8 | 4 | 8 | 6 | 17 | 43 | 11 | 26 | 29 | 49 | 28 | 5 | 4 |
| 5 | *Other tubercular diseases* | *208* | .. | .. | *1* | .... | *4* | .... | .... | .... | *2* | .... | *1* | .... | *2* | .... | .. | .... |
| 6 | Marasmus | 109 | .. | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... |
| 7 | Meningitis, Tuberc | 33 | .. | .. | .. | .... | 2 | .... | .... | .... | 1 | .... | 1 | .... | .. | .... | .. | .... |
| 8 | Scrofula | 17 | .. | .. | .... | .... | .... | .... | .... | .... | 1 | .... | .. | .... | .... | .... | .. | .... |
| 9 | Tabes mesenterica | 37 | .. | .. | 1 | .... | 2 | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .. | .... |
| 10 | Other forms of tuberculosis | 12 | .. | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... |
| 11 | Croup | 211 | 1 | .. | 1 | 6 | .... | 1 | .... | .... | 9 | .... | 4 | .... | 5 | .... | .. | 3 |
| 12 | Croup, Membranous | 80 | .. | .. | 3 | .... | 2 | .... | .... | 1 | 14 | .... | 1 | .... | .... | .... | .. | .... |
| 13 | Diphtheria | 1,020 | 3 | .. | 17 | 12 | .... | 10 | .... | 6 | 71 | .... | 6 | 9 | 2 | 5 | .. | 20 |
| 14 | Erysipelas | 64 | .. | .. | .... | .... | 1 | .... | .... | .... | 2 | 1 | .... | .... | 2 | 1 | .. | 1 |
| 15 | Fever, Puerperal | 42 | 1 | .. | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 3 | .... | .. | .... |
| 16 | Fever, Scarlet | 442 | 1 | .. | 7 | 2 | 1 | .... | 1 | .... | 9 | .... | 1 | .... | .... | 1 | 2 | .... |
| 17 | Fever, Typhoid | 626 | .. | .. | 8 | .... | .... | 1 | 7 | 4 | 12 | .... | 10 | 5 | 11 | 5 | .. | 2 |
| 18 | Fever, Typho-malarial | 23 | .. | .. | .... | .... | .... | .... | .... | .... | 3 | .... | .... | 3 | .... | .... | .. | .... |
| 19 | Fever, Typhus | 6 | .. | .. | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .. | .... |
| 20 | Glanders | 1 | .. | .. | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... |
| 21 | Measles | 72 | .. | .. | .... | 3 | 2 | 1 | .... | .... | 2 | .... | .... | 4 | .... | .... | .. | .... |
| 22 | —German (Rötheln) | 2 | .. | .. | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... |
| 23 | Small-pox | 1 | .. | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... |
| 24 | Chicken-pox | 4 | .. | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... |
| 25 | Whooping-cough | 147 | .. | .. | 6 | .... | .... | .... | .... | .... | 2 | 1 | 3 | .... | 1 | .... | .. | .... |
| 26 | *Bladder diseases* | *50* | .. | .. | *2* | .... | .... | .... | .... | .... | .... | .... | *1* | .... | *1* | *1* | .. | .... |
| 27 | Calculus | 11 | .. | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .. | .... |
| 28 | Cystitis | 22 | .. | .. | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .. | .... |
| 29 | Bladder disease, etc. | 17 | .. | .. | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... |
| 30 | *Bowel diseases* | *1,631* | *3* | .. | *21* | *13* | *10* | *2* | *3* | *18* | *61* | *4* | *16* | *9* | *24* | *17* | *11* | *14* |
| 31 | Bowels, Inflammation of | 334 | 1 | .. | 8 | 3 | 4 | .... | .... | 2 | 10 | .... | 2 | .... | 5 | 4 | 2 | 2 |
| 32 | Diarrhea | 277 | .. | .. | 1 | 5 | .... | .... | 3 | 1 | 10 | .... | .... | 2 | 1 | .... | .. | 3 |
| 33 | Cholera infantum | 606 | 2 | .. | 6 | 3 | 2 | .... | .... | 9 | 34 | 4 | 7 | 3 | 4 | 6 | 9 | 8 |
| 34 | Dysentery | 74 | .. | .. | 1 | .... | 1 | .... | .... | 2 | 3 | .... | .... | .... | .... | 1 | .. | .... |
| 35 | Peritonitis | 89 | .. | .. | 1 | .... | .... | 1 | .... | 1 | .... | .... | 3 | .... | 7 | 1 | .. | .... |
| 36 | Bowel disease, etc. | 251 | .. | .. | 4 | 2 | 3 | 1 | .... | 3 | 4 | .... | 4 | 4 | 7 | 5 | .. | 1 |

NOTE.—The arrangement of causes of death is uniform in Tables 69, 70 and 71. For explanation of the terms used, their inclusion and relation to the classifications formerly employed in these reports, see text beginning on page 184, to which reference may be made by line numbers.

*ath in Michigan during the year 1892, showing their distribution by counties.*

Keweenaw.

| Clare. | Clinton. | Crawford. | Delta. | Dickinson. | Eaton. | Emmet. | Genesee. | Gladwin. | Gogebic. | G'd Traverse. | Gratiot. | Hillsdale. | Houghton. | Huron. | Ingham. | Ionia. | Iosco. | Iron. | Isabella. | Jackson. | Kalamazoo. | Kalkaska. | Kent. | Keweenaw. | Line number. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 45 | 241 | 23 | 141 | 194 | 288 | 64 | 407 | 13 | 456 | 136 | 188 | 323 | 552 | 225 | 386 | 265 | 168 | 62 | 116 | 490 | 433 | 48 | 1,321 | 52 | 1 |
| 38 | 210 | 20 | 94 | 123 | 249 | 44 | 351 | 10 | 170 | 115 | 152 | 294 | 403 | 173 | 335 | 226 | 131 | 45 | 92 | 443 | 385 | 41 | 1,085 | 49 | 2 |
| *9* | *37* | *7* | *31* | *45* | *54* | *18* | *95* | *1* | *77* | *23* | *33* | *66* | *142* | *48* | *69* | *38* | *41* | *19* | *28* | *106* | *66* | *6* | *299* | *18* | 3 |
| 4 | 19 | 4 | 17 | 14 | 42 | 14 | 49 | .. | 13 | 19 | 19 | 42 | 31 | 30 | 40 | 30 | 10 | 7 | 16 | 54 | 39 | 3 | 124 | 4 | 4 |
| .. | *2* | .. | *2* | *1* | .... | .... | *3* | .. | *1* | *2* | *2* | *3* | *5* | *4* | *4* | .... | .... | .... | .... | *3* | *2* | .. | *18* | *4* | 5 |
| .. | .... | .. | 2 | .... | .... | .... | .... | .. | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | ..... | .... | .. | 7 | 4 | 6 |
| .. | 1 | .. | .... | .... | .... | .... | 1 | .. | 1 | .... | .... | 1 | 3 | 1 | 1 | .... | .... | .... | .... | 1 | .... | .. | 2 | .... | 7 |
| .. | .... | .. | .... | .... | .... | .... | 1 | .. | .... | .... | .... | .... | ..... | .... | 1 | .... | .... | .... | .... | ..... | 1 | .. | 7 | .... | 8 |
| .. | 1 | .. | .... | 1 | .... | .... | 1 | .. | .... | 2 | 2 | 2 | ..... | 3 | 2 | .... | .... | .... | .... | 2 | 1 | .. | 1 | .... | 9 |
| .. | .... | .. | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | .... | .. | 1 | .... | 10 |
| .. | 1 | .. | 1 | 3 | 1 | .... | 1 | .. | 2 | .... | 1 | 2 | 7 | 1 | .... | .... | 2 | .... | .... | 6 | 3 | .. | 7 | .... | 11 |
| .. | 2 | .. | .... | .... | 1 | .... | 1 | .. | 1 | .... | 1 | .... | 1 | .... | 1 | .... | 3 | .... | .... | 10 | 1 | .. | 3 | .... | 12 |
| .. | 4 | .. | .... | 22 | 2 | .... | 26 | .. | 10 | .... | 4 | 3 | 10 | 5 | 6 | 2 | 21 | 1 | 4 | 12 | 4 | .. | 60 | 1 | 13 |
| 1 | .... | .. | .... | .... | 1 | .... | 1 | .. | .... | .... | 1 | 2 | ..... | 1 | 1 | 1 | .... | .... | 1 | ..... | 3 | .. | 5 | .... | 14 |
| .. | .... | .. | .... | 1 | 2 | .... | 2 | .. | 1 | 1 | .... | 1 | ..... | .... | 1 | .... | .... | 1 | .... | ..... | 1 | .. | 3 | 1 | 15 |
| .. | 2 | .. | .... | 1 | 3 | 2 | 4 | .. | 14 | 1 | .... | 3 | 53 | .... | 2 | .... | .... | .... | 1 | 9 | 3 | .. | 12 | 2 | 16 |
| 2 | 7 | .. | 9 | 3 | 1 | 2 | 7 | 1 | 29 | .... | 4 | 8 | 18 | 5 | 11 | 5 | 1 | 8 | 1 | 10 | 9 | 2 | 57 | 4 | 17 |
| .. | .... | .. | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | .... | 1 | .... | .. | 2 | .... | 18 |
| .. | .... | .. | 1 | .... | .... | .... | .... | .. | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | .... | ..... | .... | .. | .... | .... | 19 |
| .. | .... | .. | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | .... | ..... | .... | .. | .... | .... | 20 |
| 2 | .... | .. | 1 | .... | .... | .... | 1 | .. | 3 | .... | .... | 2 | 2 | .... | 2 | .... | .... | .... | .... | ..... | .... | 1 | 2 | 1 | 21 |
| .. | .... | .. | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | ..... | .... | 1 | .... | .... | .... | .... | ..... | .... | .. | .... | .... | 22 |
| .. | .... | .. | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | ..... | .... | .... | .... | .... | .... | .... | ..... | .... | .. | .... | .... | 23 |
| .. | .... | .. | .... | .... | .... | .... | .... | .. | .... | .... | 1 | .... | ..... | .... | .... | .... | .... | .... | .... | ..... | .... | .. | .... | .... | 24 |
| .. | .... | 3 | .... | .... | 1 | .... | .... | .. | 3 | .... | .... | .... | 15 | 2 | .... | .... | 4 | 2 | 5 | 1 | 1 | .. | 6 | 1 | 25 |
| .. | *2* | .. | *1* | .... | .... | .... | *3* | .. | .... | .... | .... | *1* | *2* | .... | *2* | *1* | *1* | .... | *1* | ..... | *3* | .. | *2* | .... | 26 |
| .. | .... | .. | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | ..... | .... | .. | 1 | .... | 27 |
| .. | 2 | .. | .... | .... | .... | .... | 1 | .. | .... | .... | .... | .... | 1 | .... | 1 | 1 | 1 | .... | .... | ..... | 3 | .. | 1 | .... | 28 |
| .. | .... | .. | 1 | .... | .... | .... | 2 | .. | .... | .... | .... | 1 | ..... | .... | 1 | .... | .... | .... | 1 | ..... | .... | .. | .... | .... | 29 |
| *9* | *23* | .. | *15* | *34* | *7* | *2* | *17* | .. | *32* | *9* | *11* | *11* | *62* | *14* | *27* | *21* | *9* | *2* | *9* | *33* | *23* | *1* | *152* | *11* | 30 |
| 1 | 9 | .. | 3 | 3 | 3 | 1 | 3 | .. | 5 | 2 | 1 | .... | 13 | 5 | 3 | 1 | 2 | .... | .... | 6 | 1 | 1 | 30 | 2 | 31 |
| .. | .... | .. | 4 | .... | .... | .... | .... | .. | 4 | .... | 3 | 2 | 16 | 5 | .... | 2 | .... | .... | .... | 4 | 2 | .. | 39 | 5 | 32 |
| 6 | 10 | .. | 6 | 31 | 1 | 1 | 7 | .. | 8 | 5 | 2 | 5 | 6 | 4 | 16 | 13 | 4 | 2 | 7 | 7 | 7 | .. | 27 | 1 | 33 |
| 1 | 1 | .. | .... | .... | .... | .... | 1 | .. | 13 | 1 | 2 | 1 | 2 | .... | .... | 1 | .... | .... | .... | 2 | 5 | .. | 5 | .... | 34 |
| .. | .... | .. | .... | .... | .... | .... | .... | .. | 1 | .... | .... | 2 | ..... | .... | 2 | .... | .... | .... | .... | 5 | 1 | .. | 12 | 3 | 35 |
| 1 | 3 | .. | 2 | .... | 3 | .... | 6 | .. | 1 | 1 | 3 | 1 | 25 | .... | 6 | 4 | 3 | .... | 2 | 9 | 7 | .. | 19 | .... | 36 |

**Table 70.—CONTINUED.—*Important diseases returned as***

| Line number. | Causes of death, 1892. | State. | Counties—Alcona | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Alcona. | Alger. | Allegan. | Alpena. | Antrim. | Arenac. | Baraga. | Barry. | Bay. | Benzie. | Berrien. | Branch. | Calhoun. | Cass. | Charlevoix. | Cheboygan. |
| 37 | *Brain diseases* | *1,534* | *4* | *1* | *29* | *11* | 7 | *2* | ---- | *16* | *27* | *5* | *17* | *34* | *32* | *14* | *4* | *1* |
| 38 | Apoplexy | 219 | 1 | ---- | ---- | ---- | ---- | ---- | ---- | 5 | 3 | 1 | ---- | 8 | 12 | 2 | 2 | -- |
| 39 | Brain, Congestion of | 68 | ---- | ---- | 4 | ---- | 1 | ---- | ---- | 1 | 2 | 1 | 1 | 1 | ---- | ---- | ---- | -- |
| 40 | Brain, Inflammation of | 292 | ---- | 1 | 3 | 1 | 1 | 1 | ---- | 1 | 9 | ---- | 1 | 1 | 1 | 2 | ---- | -- |
| 41 | Epilepsy | 62 | ---- | ---- | 1 | ---- | 1 | ---- | ---- | ---- | 2 | ---- | ---- | 2 | 2 | ---- | ---- | -- |
| 42 | Meningitis | 148 | ---- | ---- | 8 | 4 | ---- | 1 | ---- | 2 | 1 | 1 | 2 | 1 | ---- | ---- | ---- | 1 |
| 43 | Paralysis | 571 | 2 | ---- | 8 | 5 | 3 | ---- | ---- | 7 | 9 | 2 | 9 | 18 | 16 | 9 | 2 | -- |
| 44 | Brain disease, etc. | 174 | 1 | ---- | 4 | 1 | 1 | ---- | ---- | ---- | 1 | ---- | 4 | 3 | 1 | 1 | ---- | -- |
| 45 | Cancer | 558 | ---- | ---- | 14 | 1 | ---- | ---- | 1 | 3 | 7 | ---- | 7 | 11 | 10 | 5 | 1 | 1 |
| 46 | Tumor | 139 | 1 | ---- | ---- | ---- | ---- | ---- | ---- | 1 | ---- | ---- | ---- | 2 | 6 | 1 | ---- | 2 |
| 47 | Childbirth | 244 | 1 | ---- | 7 | 3 | 1 | ---- | ---- | 1 | 5 | 1 | 3 | 1 | 5 | 3 | 2 | -- |
| 48 | Convulsions | 548 | 1 | 1 | 3 | 3 | 2 | 1 | 1 | 1 | 19 | 1 | 9 | ---- | 9 | ---- | 2 | 3 |
| 49 | Diabetes | 69 | ---- | ---- | 2 | ---- | ---- | ---- | ---- | 1 | ---- | ---- | ---- | 1 | 3 | 1 | ---- | 1 |
| 50 | Dropsy | 389 | 1 | ---- | 6 | 3 | 4 | 2 | ---- | 5 | 14 | ---- | 12 | 7 | 12 | 5 | 2 | 3 |
| 51 | Fever | 129 | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | ---- | 1 | 5 | 1 | ---- | 2 | ---- | -- |
| 52 | Fever, Malarial | 146 | ---- | ---- | 3 | ---- | ---- | 1 | ---- | 1 | ---- | ---- | 2 | 3 | 4 | 1 | 1 | 1 |
| 53 | *Heart diseases* | *1,329* | *2* | ---- | *28* | *3* | *4* | *4* | ---- | *14* | *28* | *4* | *22* | *26* | *39* | *13* | *7* | *6* |
| 54 | Pericarditis | 97 | ---- | ---- | 1 | 1 | 1 | 1 | ---- | 4 | 2 | ---- | ---- | 7 | 1 | 1 | ---- | -- |
| 55 | Heart disease, etc. | 864 | 1 | ---- | 10 | 2 | 3 | 2 | ---- | 7 | 25 | 1 | 18 | 10 | 24 | 6 | 5 | 6 |
| 56 | "Heart failure" | 368 | 1 | ---- | 17 | ---- | ---- | 1 | ---- | 3 | 1 | 3 | 4 | 9 | 13 | 6 | 2 | -- |
| 57 | Influenza | 907 | ---- | ---- | 26 | 2 | 5 | ---- | 1 | 6 | 15 | 2 | 28 | 24 | 29 | 13 | 4 | 2 |
| 58 | *Kidney diseases* | *442* | ---- | ---- | *3* | *4* | *2* | *1* | ---- | *4* | *11* | *3* | *6* | *10* | *18* | *5* | *1* | -- |
| 59 | Kidneys, Inflammat'n of | 332 | ---- | ---- | 2 | 1 | 2 | 1 | ---- | 4 | 10 | 2 | 5 | 6 | 13 | 5 | 1 | -- |
| 60 | Kidney disease, etc. | 110 | ---- | ---- | 1 | 3 | ---- | ---- | ---- | ---- | 1 | 1 | 1 | 4 | 5 | ---- | ---- | -- |
| 61 | Liver disease, etc. | 121 | ---- | ---- | ---- | 2 | 1 | 2 | 1 | ---- | 2 | ---- | 2 | 2 | 1 | ---- | ---- | -- |
| 62 | *Lung diseases* | *1,765* | *4* | *1* | *36* | *12* | *11* | *1* | *8* | *11* | *43* | *1* | *30* | *28* | *23* | *11* | *4* | *10* |
| 63 | Asthma | 65 | 1 | ---- | 2 | 1 | ---- | ---- | 1 | 2 | 1 | ---- | ---- | ---- | 2 | ---- | ---- | -- |
| 64 | Bronchitis | 184 | ---- | ---- | 1 | 1 | ---- | ---- | ---- | 1 | 3 | ---- | 1 | 3 | 1 | ---- | 2 | 1 |
| 65 | Pleurisy | 30 | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | 3 | ---- | ---- | ---- | ---- | 1 | ---- | -- |
| 66 | Pneumonia | 1,298 | 2 | ---- | 29 | 7 | 10 | 1 | 7 | 8 | 33 | 1 | 23 | 20 | 18 | 7 | 2 | 9 |
| 67 | Lungs, Congestion of | 87 | ---- | ---- | 1 | ---- | 1 | ---- | ---- | ---- | 1 | ---- | 4 | 5 | 1 | 2 | ---- | -- |
| 68 | Lung disease, etc. | 101 | 1 | 1 | 2 | 3 | ---- | ---- | ---- | ---- | 2 | ---- | 2 | ---- | 1 | 1 | ---- | -- |
| 69 | Rheumatism | 149 | ---- | ---- | 4 | 2 | ---- | ---- | ---- | ---- | 4 | ---- | 4 | 4 | 1 | 1 | ---- | 1 |
| 70 | Septicæmia | 167 | ---- | ---- | 5 | ---- | ---- | 1 | ---- | 3 | 4 | 2 | 1 | 1 | 9 | 1 | ---- | -- |
| 71 | Spine disease, etc. | 94 | ---- | ---- | 2 | ---- | 1 | ---- | ---- | 1 | ---- | ---- | ---- | ---- | 1 | ---- | 1 | -- |
| 72 | *Stomach diseases* | *178* | *1* | ---- | *1* | ---- | ---- | ---- | ---- | *2* | *4* | ---- | *3* | *2* | *4* | *4* | *2* | -- |
| 73 | Stomach, Inflammat'n of | 53 | 1 | ---- | ---- | ---- | ---- | ---- | ---- | 2 | ---- | ---- | ---- | ---- | ---- | 3 | 2 | -- |
| 74 | Stomach disease, etc. | 125 | ---- | ---- | 1 | ---- | ---- | ---- | ---- | ---- | 4 | ---- | 3 | 2 | 4 | 1 | ---- | -- |
| 75 | *Syphilis* | 11 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | -- |
| 76 | *Unclassified* | 1,949 | 2 | 3 | 36 | 6 | 7 | 2 | 7 | 16 | 43 | 2 | 33 | 25 | 28 | 17 | 4 | 8 |

*causes of death in Michigan during the year 1892, by counties.*

to Keweenaw.

| Chippewa. | Clare. | Clinton. | Crawford. | Delta. | Dickinson. | Eaton. | Emmet. | Genesee. | Gladwin. | Gogebic. | Grand Traverse. | Gratiot. | Hillsdale. | Houghton. | Huron. | Ingham. | Ionia. | Iosco. | Iron. | Isabella. | Jackson. | Kalamazoo. | Kalkaska. | Kent. | Keweenaw. | Line number. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 6 | 14 | 2 | 1 | .... | 24 | 1 | 44 | .. | 4 | 17 | 18 | 20 | 17 | 8 | 47 | 20 | 8 | 2 | 12 | 53 | 56 | 7 | 97 | 3 | 37 |
| .... | .... | 1 | 1 | .... | .... | 3 | .. | 7 | .. | .. | 2 | 1 | 1 | 1 | 1 | 13 | 4 | 1 | 1 | 3 | 4 | 7 | .. | 22 | 1 | 38 |
| .... | 1 | 1 | .... | .... | .... | .... | .. | 4 | .. | .. | .... | .... | 1 | 1 | 1 | .... | 1 | .... | .. | .... | 1 | .... | 2 | 8 | .. | 39 |
| 2 | .... | 2 | .... | 1 | .... | 1 | .. | 2 | .. | 3 | 2 | 2 | 1 | 8 | 2 | 6 | 2 | 3 | 1 | 4 | 2 | 3 | 2 | 18 | .. | 40 |
| .... | .... | .... | .... | .... | .... | 1 | .. | 2 | .. | 1 | .... | .... | 1 | 1 | 1 | .... | 1 | .... | .. | 1 | .... | 4 | .. | 3 | .. | 41 |
| .... | 2 | 1 | .... | .... | .... | .... | 1 | 1 | .. | .. | .... | 4 | 2 | .... | .... | 3 | 1 | 1 | .. | 1 | 15 | 2 | 1 | 6 | 2 | 42 |
| .... | 2 | 8 | 1 | .... | .... | 18 | .. | 24 | .. | .. | 2 | 11 | 10 | 3 | 1 | 22 | 10 | 2 | .. | 3 | 26 | 32 | 2 | 27 | .. | 43 |
| 2 | 1 | 1 | .... | .... | .... | 1 | .. | 4 | .. | .. | 11 | .... | 4 | 3 | 2 | 3 | 1 | 1 | .. | .... | 5 | 8 | .. | 13 | .. | 44 |
| 1 | 1 | 6 | .... | 3 | .... | 9 | 1 | 14 | .. | .. | 1 | 12 | 12 | 8 | 4 | 8 | 6 | 1 | .. | 3 | 19 | 25 | .. | 42 | .. | 45 |
| 1 | 1 | 3 | .... | .... | .... | 2 | .. | 1 | .. | 1 | .... | 1 | 3 | 7 | 2 | 2 | 1 | .... | .. | .... | 6 | 7 | .. | 10 | .. | 46 |
| .... | 1 | 3 | .... | 2 | 5 | 2 | 1 | 2 | .. | 3 | 2 | 1 | 2 | 7 | 5 | 5 | 4 | 5 | 1 | 1 | 3 | 5 | .. | 11 | 1 | 47 |
| 3 | .... | 1 | 1 | 2 | 6 | 4 | .. | 5 | .. | 11 | 4 | 1 | 1 | 19 | 7 | 2 | .... | 7 | 2 | .... | 4 | 3 | .. | 19 | 1 | 48 |
| .... | .... | 3 | 1 | .... | 1 | 2 | .. | 1 | .. | .. | .... | 2 | 4 | .... | .... | .... | 3 | .... | .. | .... | 1 | 1 | .. | 2 | .. | 49 |
| .... | .... | 5 | .... | 2 | 1 | 8 | 4 | 6 | 1 | 4 | 2 | 3 | 9 | 3 | 2 | 9 | 3 | 1 | .. | 3 | 6 | 7 | 1 | 16 | .. | 50 |
| 8 | .... | .... | .... | .... | 2 | 2 | .. | 2 | .. | 2 | .... | .... | 3 | 17 | 1 | 3 | 6 | 3 | .. | .... | 1 | 1 | 2 | 7 | .. | 51 |
| .... | .... | 2 | .... | .... | .... | 5 | 1 | 1 | .. | 1 | .... | 1 | 1 | .... | 5 | 1 | 2 | .... | .. | .... | 3 | 7 | 1 | 4 | .. | 52 |
| 6 | 2 | 28 | .... | 6 | 4 | 37 | 4 | 52 | 2 | 4 | 21 | 12 | 51 | 6 | 11 | 30 | 21 | 9 | .. | 2 | 47 | 39 | 6 | 71 | 2 | 53 |
| .... | .... | 2 | .... | .... | .... | 2 | .. | 4 | .. | .. | 1 | .... | 4 | .... | 1 | 3 | .... | .... | .. | .... | 4 | 2 | 1 | 9 | .. | 54 |
| .... | 1 | 19 | .... | 5 | 3 | 21 | 4 | 30 | 1 | 1 | 6 | 10 | 29 | 4 | 9 | 11 | 11 | 5 | .. | 2 | 31 | 19 | 5 | 46 | 1 | 55 |
| 6 | 1 | 7 | .... | 1 | 1 | 14 | .. | 18 | 1 | 3 | 14 | 2 | 18 | 2 | 1 | 16 | 10 | 4 | .. | .... | 12 | 18 | .. | 16 | 1 | 56 |
| .... | 1 | 17 | 1 | .... | .... | 16 | 1 | 12 | 3 | 1 | 6 | 10 | 21 | 6 | 8 | 28 | 14 | 5 | 1 | 10 | 25 | 27 | 1 | 59 | 1 | 57 |
| .... | .... | 7 | .... | 1 | 1 | 10 | 2 | 9 | .. | .. | 4 | 6 | 10 | 4 | 4 | 12 | 13 | 1 | 1 | 4 | 11 | 8 | 3 | 21 | 1 | 58 |
| .... | .... | 5 | .... | .... | 1 | 9 | 1 | 9 | .. | .. | 3 | 5 | 7 | 2 | 4 | 10 | 8 | 1 | 1 | 4 | 8 | 5 | 2 | 12 | 1 | 59 |
| .... | .... | 2 | .... | 1 | .... | 1 | 1 | .... | .. | .. | 1 | 1 | 3 | 2 | .... | 2 | 5 | .... | .. | .... | 3 | 3 | 1 | 9 | .. | 60 |
| .... | .... | 1 | .... | .... | .... | 3 | .. | 5 | .. | .. | 1 | .... | 2 | 2 | .... | 2 | 1 | .... | .. | .... | 3 | 3 | .. | 3 | .. | 61 |
| 3 | 1 | 29 | 1 | 14 | 15 | 26 | 2 | 31 | 1 | 13 | 8 | 14 | 26 | 40 | 17 | 30 | 25 | 9 | 6 | 9 | 51 | 50 | 2 | 137 | 9 | 62 |
| .... | .... | 2 | .... | .... | .... | 2 | .. | 2 | .. | 1 | .... | .... | .... | .... | 2 | .... | 1 | .... | .. | .... | .... | 3 | .. | 1 | .. | 63 |
| 1 | .... | 2 | .... | 4 | 2 | 1 | .. | 1 | .. | 1 | 1 | 1 | .... | 15 | 1 | .... | 1 | .... | 2 | .... | 1 | 3 | .. | 12 | 6 | 64 |
| .... | .... | 3 | .... | .... | 1 | .... | .. | .... | .. | .. | .... | 1 | .... | 1 | .... | .... | .... | 2 | .. | .... | .... | .... | .. | 6 | .. | 65 |
| 1 | 1 | 18 | .... | 10 | 12 | 23 | 2 | 24 | .. | 9 | 4 | 7 | 22 | 20 | 14 | 23 | 21 | 3 | 4 | 6 | 47 | 43 | 1 | 107 | 3 | 66 |
| .... | .... | 2 | 1 | .... | .... | .... | .. | 2 | 1 | .. | 2 | 3 | 2 | 2 | .... | 5 | 2 | 3 | .. | 2 | 2 | 1 | .. | 5 | .. | 67 |
| 1 | .... | 2 | .... | .... | .... | .... | .. | 2 | .. | 2 | 1 | 2 | 2 | 2 | .... | 2 | .... | 1 | .. | 1 | 1 | .... | 1 | 6 | .. | 68 |
| 1 | .... | 5 | .... | 3 | 1 | 2 | .. | 9 | .. | .. | .... | 5 | 6 | 3 | .... | 4 | 1 | 2 | .. | .... | 3 | 6 | 1 | 7 | 1 | 69 |
| 1 | .... | 3 | .... | 4 | .... | 2 | .. | 2 | .. | .. | 2 | 3 | 2 | 1 | 3 | 6 | 4 | 1 | .. | 1 | 3 | 3 | .. | 5 | .. | 70 |
| 2 | 1 | 3 | 1 | .... | .... | 1 | 2 | 1 | .. | 1 | 1 | .... | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 2 | 5 | 1 | 5 | .. | 71 |
| 1 | .... | 2 | .... | .... | .... | 1 | 1 | 4 | .. | 2 | 1 | 3 | 5 | 2 | 1 | 4 | 2 | 1 | .. | .... | 5 | 8 | 1 | 12 | 1 | 72 |
| .... | .... | 2 | .... | .... | .... | .... | .. | .... | .. | .. | 1 | 2 | 2 | 1 | .... | 1 | 2 | 1 | .. | .... | 1 | 1 | .. | 5 | 1 | 73 |
| 1 | .... | .... | .... | .... | .... | 1 | 1 | 4 | .. | 2 | .... | 1 | 3 | 1 | 1 | 3 | .... | .... | .. | .... | 4 | 7 | 1 | 7 | .. | 74 |
| .... | .... | .... | .... | .... | .... | .... | .. | .... | .. | .. | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | .. | 1 | .. | 75 |
| 9 | 6 | 16 | 6 | 9 | 8 | 32 | 4 | 35 | 2 | 14 | 13 | 16 | 37 | 54 | 32 | 43 | 39 | 25 | 10 | 6 | 58 | 32 | 8 | 123 | | |

**Table 70.—CONTINUED.—*Important diseases returned as causes of***

| Line number. | Causes of death, 1892. | Counties—Lake | Lapeer. | Leelanau. | Lenawee. | Livingston. | Luce. | Mackinac. | Macomb. | Manistee. | Manitou. | Marquette. | Mason. | Mecosta. | Menominee. | Midland. | Missaukee. | Monroe. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TOTAL DEATHS | 28 | 197 | 52 | 412 | 166 | 24 | 43 | 335 | 204 | 2 | 574 | 151 | 126 | 174 | 89 | 47 | 296 |
| 2 | SPECIFIED DISEASES | 22 | 161 | 44 | 370 | 143 | 13 | 37 | 301 | 116 | 1 | 431 | 111 | 89 | 91 | 70 | 30 | 238 |
| 3 | *Dangerous Communicable Diseases* | *4* | *43* | *5* | *72* | *37* | *5* | *23* | *63* | *30* | .. | *147* | *42* | *22* | *38* | *16* | *8* | *90* |
| 4 | Consumption | 1 | 23 | 4 | 59 | 21 | 2 | 8 | 28 | 19 | .. | 31 | 19 | 15 | 10 | 5 | 3 | 34 |
| 5 | *Other tubercular diseases* | .... | *1* | *1* | .... | .... | .... | .... | *2* | .... | .. | *1* | .... | .... | .... | .... | .... | *2* |
| 6 | Marasmus | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... |
| 7 | Meningitis, Tuberc. | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .. | .... | .... | .... | .... | .... | .... | 2 |
| 8 | Scrofula | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .. | 1 | .... | .... | .... | .... | .... | .... |
| 9 | Tabes mesenterica | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | .. | .... | .... | .... | .... | .... | .... | .... |
| 10 | Other forms of tuberculosis | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... |
| 11 | Croup | .... | 2 | .... | 1 | .... | 1 | 1 | 4 | .... | .. | 14 | .... | 1 | 3 | .... | .... | 2 |
| 12 | Croup, Membranous | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .. | 2 | .... | .... | 1 | 1 | .... | 3 |
| 13 | Diphtheria | 3 | 4 | .... | 5 | 12 | .... | 1 | 14 | 1 | .. | 13 | 6 | .... | 5 | 6 | .... | 38 |
| 14 | Erysipelas | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .. | 1 | 2 | 2 | .... | 1 | 1 | .... |
| 15 | Fever, Puerperal | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .. | 1 | 5 | .... | .... | .... | 1 | .... |
| 16 | Fever, Scarlet | .... | 4 | .... | .... | 2 | 2 | 13 | 9 | 4 | .. | 20 | 1 | 1 | 2 | .... | .... | .... |
| 17 | Fever, Typhoid | .... | 3 | .... | 6 | 1 | .... | .... | 3 | 5 | .. | 38 | 4 | .... | 7 | 3 | 1 | 8 |
| 18 | Fever, Typho-malarial | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | 1 | .... | .... | .... | .... | .... |
| 19 | Fever, Typhus | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... |
| 20 | Glanders | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... |
| 21 | Measles | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | .. | 19 | .... | .... | 8 | .... | .... | 1 |
| 22 | —German (Rötheln) | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... |
| 23 | Small-pox | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... |
| 24 | Chicken-pox | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... |
| 25 | Whooping-cough | .... | 4 | .... | .... | .... | .... | .... | 2 | .... | .. | 7 | 4 | 3 | 2 | .... | 2 | 2 |
| 26 | *Bladder diseases* | .... | *2* | .... | *1* | *1* | .... | .... | *1* | .... | .. | .... | .... | *1* | .... | .... | .... | *1* |
| 27 | Calculus | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .. | .... | .... | 1 | .... | .... | .... | 1 |
| 28 | Cystitis | .... | 1 | .... | .... | .... | .... | .... | 1 | .... | .. | .... | .... | .... | .... | .... | .... | .... |
| 29 | Bladder disease, etc. | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... |
| 30 | *Bowel diseases* | *1* | *11* | *3* | *21* | *5* | *1* | *5* | *31* | *9* | .. | *61* | *10* | *6* | *10* | *6* | *1* | *21* |
| 31 | Bowels, Inflammation of | .... | 5 | .... | 2 | 3 | .... | 1 | 10 | 5 | .. | 24 | 2 | 5 | 3 | 3 | .... | 7 |
| 32 | Diarrhea | .... | 1 | 1 | 2 | .... | .... | 2 | 8 | 1 | .. | 13 | 2 | .... | 2 | .... | .... | 5 |
| 33 | Cholera infantum | .... | .... | 1 | 7 | 1 | 1 | 2 | 6 | 2 | .. | 16 | 5 | .... | 1 | 3 | .... | 7 |
| 34 | Dysentery | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | 2 |
| 35 | Peritonitis | .... | 2 | .... | 2 | .... | .... | .... | 2 | 1 | .. | 3 | .... | .... | .... | .... | .... | .... |
| 36 | Bowel disease, etc. | 1 | 3 | 1 | 6 | 1 | .... | .... | 5 | .... | .. | 5 | 1 | 1 | 4 | .... | 1 | .... |

*death in Michigan during the year 1892, by counties.*

to Wexford.

| Montcalm. | M'tmorency. | Muskegon. | Newaygo. | Oakland. | Oceana. | Ogemaw. | Ontonagon. | Osceola. | Oscoda. | Otsego. | Ottawa. | Presque Isle. | Roscommon. | Saginaw. | Sanilac. | Schoolcraft. | Shiawassee. | St. Clair. | St. Joseph. | Tuscola. | Van Buren. | Washtenaw. | Wayne. | Wexford. | Line number. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 241 | 6 | 449 | 116 | 445 | 87 | 32 | 20 | 101 | 12 | 33 | 351 | 32 | 13 | 1,087 | 287 | 46 | 184 | 575 | 315 | 219 | 286 | 436 | 3,722 | 91 | 1 |
| 188 | 4 | 378 | 93 | 392 | 63 | 30 | 16 | 76 | 8 | 30 | 293 | 6 | 12 | 843 | 231 | 36 | 147 | 481 | 265 | 166 | 231 | 389 | 3,189 | 71 | 2 |
| *37* | *1* | *141* | *28* | *68* | *12* | *4* | *7* | *18* | *4* | *12* | *76* | .. | *5* | *234* | *80* | *9* | *49* | *150* | *49* | *59* | *51* | *86* | *1,163* | *18* | 3 |
| 21 | .. | 64 | 8 | 42 | 6 | 2 | 3 | 8 | 2 | .... | 32 | .. | 5 | 89 | 38 | 6 | 26 | 61 | 39 | 36 | 32 | 54 | 296 | 5 | 4 |
| *4* | .. | *2* | *1* | .... | .... | *1* | .. | *1* | .. | .... | 3 | .. | .. | *8* | *1* | .. | *1* | *3* | *3* | *1* | *2* | *2* | *101* | .... | 5 |
| .... | .. | ..... | .... | .... | .... | 1 | .. | .... | .. | .... | .... | .. | .. | 1 | .... | .. | .... | ..... | .... | .... | .... | .... | 92 | .... | 6 |
| 1 | .. | ..... | .... | .... | .... | .. | .. | .... | .. | .... | 1 | .. | .. | 5 | 1 | .. | .... | 1 | 2 | .... | .... | .... | 2 | .... | 7 |
| .... | .. | ..... | .... | .... | .... | .. | .. | .... | .. | .... | 2 | .. | .. | .... | .... | .. | .... | ..... | .... | .... | .... | 1 | 1 | .... | 8 |
| 3 | .. | 2 | 1 | .... | .... | .. | .. | 1 | .. | .... | .... | .. | .. | .... | .... | .. | 1 | 1 | .... | 1 | .... | 1 | 1 | .... | 9 |
| .... | .. | ..... | .... | .... | .... | .. | .. | .... | .. | .... | .... | .. | .. | 2 | .... | .. | .... | 1 | 1 | .... | 2 | .... | 5 | .... | 10 |
| 1 | .. | 2 | 1 | 1 | 1 | .. | 3 | .... | .. | 1 | 3 | .. | .. | 13 | 5 | 1 | 1 | 4 | 1 | 2 | 1 | 1 | 70 | 1 | 11 |
| .... | .. | 3 | 3 | 3 | .... | 1 | .. | .... | .. | .... | .... | .. | .. | 11 | 1 | .. | .... | 2 | .... | 2 | .... | .... | ..... | .... | 12 |
| 2 | 1 | 52 | 6 | 8 | .... | .. | 1 | .... | .. | 10 | 14 | .. | .. | 58 | 13 | 1 | 13 | 27 | .... | 4 | 1 | 17 | 322 | 1 | 13 |
| 1 | .. | 1 | 1 | 3 | .... | .. | .. | 1 | .. | 1 | 1 | .. | .. | 1 | 1 | .. | 3 | 4 | 1 | 2 | 1 | 3 | 6 | .... | 14 |
| .... | .. | 1 | 1 | .... | .... | .. | .. | .... | .. | .... | 2 | .. | .. | 5 | .... | 1 | .... | ..... | .... | .... | .... | .... | 3 | .... | 15 |
| 1 | .. | 5 | 2 | 2 | 1 | .. | .. | 2 | 1 | .... | 7 | .. | .. | 21 | 1 | .. | 1 | 5 | 2 | 2 | 3 | 5 | 186 | .... | 16 |
| 7 | .. | 7 | 5 | 8 | 4 | .. | .. | 3 | 1 | .... | 10 | .. | .. | 26 | 5 | .. | 3 | 32 | 2 | 10 | 5 | 3 | 142 | 5 | 17 |
| .... | .. | ..... | .... | .... | .... | .. | .. | .... | .. | .... | 1 | .. | .. | .... | .... | .. | .... | 3 | .... | .... | .... | .... | 9 | .... | 18 |
| .... | .. | ..... | .... | .... | .... | .. | .. | .... | .. | .... | 1 | .. | .. | .... | .... | .. | .... | 1 | .... | .... | .... | .... | ..... | .... | 19 |
| .... | .. | ..... | .... | .... | .... | .. | .. | .... | .. | .... | .... | .. | .. | .... | .... | .. | .... | ..... | .... | .... | .... | .... | ..... | .... | 20 |
| .... | .. | ..... | .... | 1 | .... | .. | .. | .... | .. | .... | .... | .. | .. | 1 | 4 | .. | .... | ..... | 1 | .... | .... | .... | 6 | .... | 21 |
| .... | .. | ..... | .... | .... | .... | .. | .. | .... | .. | .... | .... | .. | .. | .... | .... | .. | .... | ..... | .... | .... | .... | .... | ..... | .... | 22 |
| .... | .. | ..... | .... | .... | .... | .. | .. | .... | .. | .... | .... | .. | .. | .... | .... | .. | .... | ..... | .... | .... | .... | .... | ..... | .... | 23 |
| .... | .. | ..... | .... | .... | .... | .. | .. | .... | .. | .... | .... | .. | .. | .... | .... | .. | .... | ..... | .... | .... | .... | .... | 2 | .... | 24 |
| .... | .. | 4 | .... | .... | .... | .. | .. | 3 | .. | .... | 2 | .. | .. | 1 | 11 | .. | 1 | 8 | .... | .... | 6 | 1 | 20 | 6 | 25 |
| *3* | .. | ..... | .... | *2* | .... | .. | .. | .... | .. | .... | .... | .. | .. | *2* | *1* | .. | .. | ..... | .... | .... | .... | *3* | *8* | .... | 26 |
| .... | .. | ..... | .... | 1 | .... | .. | .. | .... | .. | .... | .... | .. | .. | 1 | 1 | .. | .... | ..... | .... | .... | .... | .... | 2 | .... | 27 |
| 1 | .. | ..... | .... | .... | .... | .. | .. | .... | .. | .... | .... | .. | .. | 1 | .... | .. | .... | ..... | .... | .... | .... | 3 | 1 | .... | 28 |
| 2 | .. | ..... | .... | 1 | .... | .. | .. | .... | .. | .... | .... | .. | .. | .... | .... | .. | .... | ..... | .... | .... | .... | .... | 5 | .... | 29 |
| *26* | .. | *36* | *5* | *28* | *9* | *3* | .. | 7 | *1* | *3* | *20* | .. | *1* | *78* | *11* | 7 | *11* | *39* | *14* | *14* | *19* | *24* | *329* | *8* | 30 |
| 8 | .. | 10 | 1 | 7 | 2 | 2 | .. | 3 | 1 | .... | 2 | .. | 1 | 12 | 7 | .. | 4 | 12 | 2 | 3 | 2 | 4 | 42 | 1 | 31 |
| 2 | .. | 5 | .... | 5 | 1 | .. | .. | 2 | .. | .... | 10 | .. | .. | 7 | 2 | .. | 2 | 1 | 1 | .... | 2 | 3 | 84 | 1 | 32 |
| 5 | .. | 15 | 3 | 5 | 4 | .. | .. | 1 | .. | 2 | 6 | .. | .. | 49 | 1 | .. | 2 | 17 | 3 | 7 | 9 | 5 | 137 | 5 | 33 |
| 1 | .. | 1 | .... | 2 | 2 | .. | .. | .... | .. | .... | .... | .. | .. | 1 | .... | 6 | .... | ..... | 1 | 1 | .... | 2 | 9 | 1 | 34 |
| .... | .. | 4 | .... | 3 | .... | 1 | .. | .... | .. | .... | .... | .. | .. | 4 | .... | 1 | .... | 1 | 1 | .... | 1 | 5 | 18 | .... | 35 |
| .... | .. | 1 | 1 | 6 | .... | .. | .. | 1 | .. | 1 | 2 | .. | .. | 5 | 1 | .. | 3 | 8 | 6 | 3 | 5 | 5 | 39 | .... | 36 |

**Table 70.**—CONCLUDED.—***Important diseases returned as***

| Line number. | Causes of death, 1892. | Counties—Lake | Lapeer. | Leelanau. | Lenawee. | Livingston. | Luce. | Mackinac. | Macomb. | Manistee. | Manitou. | Marquette. | Mason. | Mecosta. | Menominee. | Midland. | Missaukee. | Monroe. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | *Brain diseases* | 2 | 12 | 3 | 45 | 14 | 2 | .... | 27 | 11 | .... | 35 | 7 | 14 | 8 | 7 | 2 | 22 |
| 38 | Apoplexy | .... | 2 | .... | 8 | 1 | .... | .... | 4 | 1 | .... | 5 | 1 | .... | .... | 1 | .... | 3 |
| 39 | Brain, Congestion of | 1 | 1 | 1 | 1 | 2 | 1 | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| 40 | Brain, Inflammation of | .... | 3 | 1 | 2 | .... | 1 | .... | 5 | 4 | .... | 20 | 1 | 3 | 2 | 1 | .... | 7 |
| 41 | Epilepsy | .... | 1 | .... | 2 | .... | .... | .... | 3 | 1 | .... | .... | .... | 1 | .... | .... | .... | 3 |
| 42 | Meningitis | .... | .... | .... | 2 | 1 | .... | .... | 1 | 2 | .... | 5 | 1 | 1 | 2 | 1 | .... | 2 |
| 43 | Paralysis | 1 | 4 | 1 | 24 | 7 | .... | .... | 11 | 1 | .... | 4 | 3 | 6 | 3 | 1 | 1 | 5 |
| 44 | Brain disease, etc. | .... | 1 | .... | 6 | 3 | .... | .... | 3 | 1 | .... | 1 | 1 | 3 | 1 | 2 | .... | 1 |
| 45 | Cancer | 2 | 6 | 1 | 27 | 7 | .... | .... | 17 | 7 | .... | 10 | 4 | 3 | 1 | 1 | .... | 1 |
| 46 | Tumor | .... | 1 | .... | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... |
| 47 | Childbirth | .... | 3 | 1 | 1 | 4 | .... | 1 | 2 | 4 | .... | 8 | 2 | 2 | 2 | 2 | 1 | |
| 48 | Convulsions | .... | 1 | 1 | 4 | .... | .... | .... | 6 | 6 | .... | 21 | 5 | 2 | 5 | 4 | 2 | |
| 49 | Diabetes | .... | 1 | .... | 1 | .... | .... | .... | 1 | .... | .... | 1 | .... | 1 | .... | 1 | .... | |
| 50 | Dropsy | 2 | 3 | 3 | 13 | .... | .... | .... | 9 | 4 | .... | 2 | 3 | 2 | 3 | 2 | 1 | |
| 51 | Fever | .... | .... | .... | 2 | .... | .... | .... | 1 | 1 | .... | 11 | 2 | .... | 1 | 2 | 3 | |
| 52 | Fever, Malarial | 1 | 1 | .... | 2 | .... | .... | .... | 2 | 1 | .... | 2 | 6 | .... | .... | 4 | .... | |
| 53 | *Heart diseases* | .... | 18 | 3 | 43 | 24 | .... | .... | 22 | 8 | 1 | 24 | 2 | 3 | 2 | 5 | .... | |
| 54 | Pericarditis | .... | 6 | .... | 2 | 2 | .... | .... | 3 | .... | .... | .... | .... | 1 | .... | 1 | .... | |
| 55 | Heart disease, etc. | .... | 10 | 2 | 22 | 22 | .... | .... | 14 | 5 | 1 | 18 | 2 | 2 | 1 | 4 | .... | |
| 56 | "Heart failure" | .... | 2 | 1 | 19 | .... | .... | .... | 5 | 3 | .... | 6 | .... | .... | 1 | .... | .... | |
| 57 | Influenza | 1 | 12 | 6 | 17 | 10 | 1 | 1 | 25 | 5 | .... | 6 | 6 | 5 | 1 | 4 | 2 | |
| 58 | *Kidney diseases* | 1 | 4 | 1 | 15 | 5 | .... | .... | 12 | 2 | .... | 5 | 1 | 3 | .... | 2 | .... | |
| 59 | Kidneys, Inflammat'n of | .... | 1 | 1 | 13 | 5 | .... | .... | 8 | 2 | .... | 5 | 1 | 3 | .... | .... | .... | |
| 60 | Kidney disease, etc. | 1 | 3 | .... | 2 | .... | .... | .... | 4 | .... | .... | .... | .... | .... | .... | 2 | .... | |
| 61 | Liver disease, etc. | 1 | 1 | .... | 4 | 1 | .... | .... | 3 | .... | .... | .... | 1 | .... | .... | 1 | 1 | |
| 62 | *Lung diseases* | 4 | 14 | 9 | 43 | 16 | 3 | 1 | 23 | 11 | .... | 71 | 7 | 7 | 9 | 5 | 4 | |
| 63 | Asthma | 1 | 2 | .... | 2 | .... | .... | .... | 1 | .... | .... | 2 | .... | .... | .... | .... | .... | |
| 64 | Bronchitis | 2 | 2 | 2 | 1 | 2 | 1 | .... | .... | 2 | .... | 18 | .... | .... | 1 | 1 | .... | |
| 65 | Pleurisy | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 2 | .... | .... | .... | .... | .... | |
| 66 | Pneumonia | 1 | 10 | 5 | 33 | 14 | 2 | 1 | 19 | 4 | .... | 49 | 6 | 6 | 7 | 4 | 4 | 7 |
| 67 | Lungs, Congestion of | .... | .... | .... | 4 | .... | .... | .... | 1 | 2 | .... | .... | 1 | 1 | .... | .... | .... | |
| 68 | Lung disease, etc. | .... | .... | 2 | 3 | .... | .... | .... | 2 | 2 | .... | .... | .... | .... | 1 | .... | .... | 2 |
| 69 | Rheumatism | .... | 2 | .... | 1 | .... | .... | 1 | 1 | 1 | .... | 2 | 1 | 2 | .... | 1 | .... | 1 |
| 70 | Septicæmia | .... | .... | 1 | 6 | .... | .... | 1 | 2 | 4 | .... | 3 | 1 | 2 | 1 | .... | 1 | 1 |
| 71 | Spine disease, etc. | .... | 1 | .... | 3 | .... | .... | .... | 3 | .... | .... | .... | 2 | 1 | 1 | .... | 1 | 4 |
| 72 | *Stomach diseases* | .... | .... | 1 | 8 | 1 | .... | .... | 4 | 4 | .... | 1 | 1 | 1 | 1 | .... | 1 | 1 |
| 73 | Stomach, Inflammat'n of | .... | .... | .... | 2 | .... | .... | .... | 2 | 4 | .... | .... | .... | .... | .... | .... | .... | .... |
| 74 | Stomach disease, etc. | .... | .... | 1 | 1 | 1 | .... | .... | 2 | .... | .... | 1 | 1 | 1 | 1 | .... | 1 | |
| 75 | *Syphilis* | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| 76 | *Unclassified* | 3 | 25 | 6 | 42 | 16 | 1 | 4 | 46 | 8 | .... | 21 | 8 | 12 | 6 | 7 | 2 | |

*of death in Michigan during the year 1892, by counties.*

ord.

| Muskegon. | Newaygo. | Oakland. | Oceana. | Ogemaw. | Ontonagon. | Osceola. | Oscoda. | Otsego. | Ottawa. | Presque Isle. | Roscommon. | Saginaw. | Sanilac. | Schoolcraft. | Shiawassee. | St. Clair. | St. Joseph. | Tuscola. | Van Buren. | Washtenaw. | Wayne. | Wexford. | Line number. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *31* | 7 | *59* | *3* | *8* | ---- | *6* | -- | *1* | *24* | -- | *2* | *70* | *18* | *4* | *8* | *43* | *30* | *10* | *19* | *39* | *225* | *10* | 37 |
| 1 | ---- | 10 | 1 | ---- | ---- | ---- | -- | -- | 1 | -- | 1 | 8 | 3 | 1 | 1 | 6 | 6 | 2 | 4 | 7 | 26 | 1 | 38 |
| ---- | ---- | ---- | ---- | ---- | ---- | ---- | -- | -- | ---- | -- | -- | 3 | 2 | ---- | 2 | 2 | 1 | ---- | 2 | 1 | 11 | ---- | 39 |
| 15 | 3 | 2 | ---- | 2 | ---- | 2 | -- | -- | 14 | -- | -- | 13 | 5 | 1 | ---- | 13 | 3 | 1 | 2 | 4 | 66 | 4 | 40 |
| 2 | 1 | 5 | 1 | ---- | ---- | ---- | -- | -- | 1 | -- | -- | 1 | 1 | ---- | ---- | 4 | ---- | ---- | 1 | 1 | 8 | ---- | 41 |
| 2 | ---- | 1 | ---- | ---- | ---- | ---- | -- | -- | ---- | -- | 1 | 13 | 1 | 1 | 2 | 6 | 3 | ---- | ---- | 2 | 30 | ---- | 42 |
| 9 | 2 | 16 | ---- | 1 | ---- | 3 | -- | 1 | 8 | -- | -- | 24 | 4 | ---- | 1 | 9 | 16 | 5 | 8 | 19 | 67 | 4 | 43 |
| 2 | 1 | 25 | 1 | ---- | ---- | 1 | -- | -- | ---- | -- | -- | 8 | 2 | 1 | 2 | 3 | 1 | 2 | 2 | 5 | 17 | 1 | 44 |
| 11 | 2 | 15 | 1 | 1 | ---- | 1 | -- | -- | 13 | -- | -- | 36 | 7 | ---- | 5 | 13 | 22 | 5 | 11 | 12 | 69 | ---- | 45 |
| 2 | ---- | 3 | 1 | ---- | ---- | ---- | 1 | -- | 3 | -- | -- | 3 | 2 | 1 | 1 | 7 | 3 | 3 | 2 | 2 | 33 | ---- | 46 |
| 6 | 2 | 4 | 3 | ---- | 1 | 1 | -- | 1 | 7 | 2 | -- | 10 | 2 | ---- | 1 | 7 | 6 | 4 | 3 | 5 | 36 | ---- | 47 |
| 7 | 1 | 4 | ---- | 2 | ---- | ---- | -- | 1 | 5 | 1 | -- | 37 | 6 | ---- | 2 | 9 | 3 | 2 | 3 | 8 | 235 | 2 | 48 |
| ---- | ---- | 2 | ---- | ---- | ---- | ---- | -- | -- | 4 | -- | -- | 2 | 2 | ---- | 1 | 2 | 2 | 1 | 2 | 7 | 4 | ---- | 49 |
| 8 | 5 | 7 | 1 | ---- | ---- | 4 | -- | 2 | 8 | 1 | 1 | 11 | 4 | ---- | 2 | 6 | 3 | 2 | 8 | 6 | 77 | 1 | 50 |
| 3 | ---- | ---- | ---- | ---- | ---- | ---- | -- | -- | 4 | -- | -- | 2 | 1 | ---- | 1 | 7 | 5 | 3 | ---- | ---- | 8 | ---- | 51 |
| ---- | ---- | ---- | ---- | ---- | ---- | ---- | -- | -- | 2 | -- | 1 | 9 | 4 | 1 | ---- | 16 | 4 | 1 | 1 | ---- | 34 | 1 | 52 |
| *22* | *6* | *35* | *7* | *2* | *4* | *5* | -- | *1* | *21* | -- | -- | *60* | *9* | *2* | *13* | *27* | *19* | *11* | *23* | *56* | *142* | *4* | 53 |
| 2 | 2 | 1 | 1 | ---- | ---- | ---- | -- | -- | ---- | -- | -- | 1 | 2 | ---- | 2 | 4 | 1 | 1 | ---- | 6 | ---- | ---- | 54 |
| 19 | 4 | 21 | 5 | 2 | 4 | 4 | -- | 1 | 15 | -- | -- | 42 | 5 | 1 | 6 | 16 | 17 | 6 | 11 | 36 | 129 | 4 | 55 |
| 1 | ---- | 13 | 1 | ---- | ---- | 1 | -- | -- | 6 | -- | -- | 17 | 2 | 1 | 5 | 7 | 1 | 4 | 12 | 14 | 13 | ---- | 56 |
| 13 | 8 | 28 | 5 | 4 | ---- | 7 | 1 | 2 | 34 | -- | -- | 44 | 14 | ---- | 12 | 33 | 35 | 6 | 19 | 27 | 55 | 6 | 57 |
| *10* | *4* | *18* | *2* | ---- | ---- | *4* | -- | *1* | *2* | -- | -- | *17* | *10* | ---- | *8* | *12* | *7* | *5* | *7* | *13* | *52* | *4* | 58 |
| 8 | 3 | 13 | 1 | ---- | ---- | 2 | -- | 1 | 1 | -- | -- | 14 | 8 | ---- | 7 | 9 | 7 | 5 | 7 | 12 | 34 | 2 | 59 |
| 2 | 1 | 5 | 1 | ---- | ---- | 2 | -- | -- | 1 | -- | -- | 3 | 2 | ---- | 1 | 3 | ---- | ---- | ---- | 1 | 18 | 2 | 60 |
| ---- | 1 | 3 | 1 | ---- | ---- | 2 | -- | -- | 3 | -- | -- | 8 | 1 | 1 | 2 | 3 | 1 | 1 | 3 | 5 | 31 | ---- | 61 |
| *39* | *9* | *41* | *5* | *5* | *2* | *9* | *1* | *4* | *32* | -- | *1* | *94* | *15* | *5* | *13* | *38* | *19* | *8* | *18* | *32* | *302* | *12* | 62 |
| ---- | ---- | 2 | ---- | ---- | ---- | ---- | -- | -- | 4 | -- | -- | 3 | ---- | ---- | ---- | 1 | ---- | 1 | 2 | ---- | 19 | ---- | 63 |
| 4 | ---- | 3 | ---- | 1 | ---- | ---- | 1 | -- | 3 | -- | -- | 11 | 3 | 1 | 1 | 1 | ---- | ---- | 1 | 1 | 51 | ---- | 64 |
| ---- | ---- | ---- | 1 | ---- | ---- | 1 | -- | -- | ---- | -- | -- | ---- | ---- | ---- | ---- | ---- | 1 | ---- | 1 | ---- | 3 | 1 | 65 |
| 33 | 7 | 31 | 4 | 3 | 2 | 8 | -- | 2 | 24 | -- | 1 | 69 | 9 | 3 | 11 | 29 | 13 | 4 | 12 | 26 | 208 | 8 | 66 |
| 1 | 1 | 2 | ---- | ---- | ---- | ---- | -- | 2 | ---- | -- | -- | 4 | 3 | 1 | ---- | 3 | 1 | ---- | 1 | 3 | 5 | 1 | 67 |
| 1 | 1 | 3 | ---- | 1 | ---- | ---- | -- | -- | 1 | -- | -- | 7 | ---- | ---- | 1 | 4 | 4 | 3 | 1 | 2 | 16 | 2 | 68 |
| 4 | ---- | 6 | ---- | 1 | ---- | ---- | -- | -- | ---- | -- | -- | 6 | 4 | ---- | 1 | 6 | 1 | 2 | 2 | 3 | 18 | ---- | 69 |
| 4 | 4 | 3 | ---- | ---- | ---- | 3 | -- | -- | 3 | -- | -- | 7 | 4 | 1 | 2 | 3 | 2 | ---- | 4 | 5 | 22 | 1 | 70 |
| 1 | 1 | 1 | ---- | 1 | ---- | ---- | -- | -- | 3 | -- | -- | 7 | 1 | ---- | ---- | 1 | 1 | 4 | ---- | 1 | 10 | 1 | 71 |
| *6* | ---- | *3* | *1* | ---- | ---- | *3* | -- | *6* | *4* | -- | -- | *8* | *2* | ---- | *5* | *5* | *6* | *1* | *4* | *4* | *22* | *1* | 72 |
| 1 | ---- | ---- | ---- | ---- | ---- | ---- | -- | -- | ---- | -- | -- | ---- | ---- | ---- | 1 | ---- | 2 | ---- | 1 | ---- | 11 | ---- | 73 |
| 5 | ---- | 3 | 1 | ---- | ---- | 3 | -- | 1 | 4 | -- | -- | 8 | 2 | ---- | 4 | 5 | 4 | 1 | 3 | 4 | 11 | 1 | 74 |
| ---- | 1 | 1 | ---- | ---- | ---- | ---- | -- | -- | ---- | -- | -- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 5 | 75 |
| *34* | *9* | *61* | *12* | *4* | | | | | *75* | *2* | *1* | *98* | *33* | *5* | *10* | *54* | *33* | *24* | *32* | *51* | *26* | | |

**Table 71.**—*Important diseases and groups of diseases returned as*

| Line No. | Causes of death, 1869-92. | Years. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | 1886. | 1885. | 1884. |
| 1 | TOTAL DEATHS | 21,729 | 22,079 | 21,642 | 20,315 | 21,764 | 19,482 | 18,187 | 16,646 | 18,056 |
| 2 | SPECIFIED DISEASES | 17,578 | 18,115 | 17,612 | 16,767 | 18,114 | 16,257 | 15,305 | 13,766 | 15,133 |
| 3 | *Dangerous Communicable Diseases* | *5,029* | *5,180* | *5,254* | *4,762* | *5,493* | *5,249* | *4,976* | *4,431* | *5,053* |
| 4 | Consumption | 2,080 | 2,060 | 2,207 | 2,137 | 2,424 | 2,127 | 2,051 | 1,964 | 2,198 |
| 5 | *Other tubercular diseases* | *208* | *176* | *199* | *116* | *141* | *142* | *150* | *147* | *183* |
| 6 | Marasmus | 109 | 90 | 74 | 16 | 30 | 21 | 57 | 60 | 44 |
| 7 | Meningitis, Tuberc. | 33 | 27 | 41 | 43 | 47 | 62 | 40 | 34 | 49 |
| 8 | Scrofula | 17 | 16 | 34 | 26 | 22 | 27 | 25 | 25 | 42 |
| 9 | Tabes mesenterica | 37 | 23 | 32 | 21 | 31 | 24 | 21 | 19 | 34 |
| 10 | Other forms of tuberculosis | 12 | 20 | 18 | 10 | 11 | 8 | 7 | 9 | 14 |
| 11 | Croup | 211 | 253 | 415 | 357 | 384 | 282 | 296 | 291 | 285 |
| 12 | Croup, Membranous | 80 | 35 | 56 | 46 | 90 | 117 | 104 | 46 | 40 |
| 13 | Diphtheria | 1,020 | 1,060 | 1,266 | 849 | 723 | 935 | 1,117 | 1,054 | 1,065 |
| 14 | Erysipelas | 64 | 66 | 46 | 52 | 82 | 70 | 63 | 68 | 71 |
| 15 | Fever, Puerperal | 42 | 35 | 26 | 32 | 51 | 33 | 30 | 38 | 29 |
| 16 | Fever, Scarlet | 442 | 400 | 222 | 240 | 323 | 318 | 319 | 245 | 328 |
| 17 | Fever, Typhoid | 626 | 684 | 465 | 637 | 638 | 770 | 498 | 387 | 514 |
| 18 | Fever, Typho-malarial | 23 | 16 | 27 | 43 | 31 | 52 | 25 | 7 | 29 |
| 19 | Fever, Typhus | 6 | 7 | 11 | 4 | 3 | 7 | 2 | 1 | 5 |
| 20 | Glanders | 1 | | | | | | | | |
| 21 | Measles | 72 | 225 | 229 | 104 | 414 | 285 | 129 | 38 | 144 |
| 22 | —German (Röthein) | 2 | | | | | | | | |
| 23 | Small-pox | 1 | 1 | 6 | 3 | 3 | | 6 | 3 | 3 |
| 24 | Chicken-pox | 4 | 4 | 4 | 2 | 2 | 1 | 1 | 4 | 1 |
| 25 | Whooping-cough | 147 | 158 | 75 | 140 | 174 | 110 | 185 | 138 | 160 |
| 26 | *Bladder diseases* | *50* | *32* | *33* | *40* | *29* | *49* | *40* | *41* | *36* |
| 27 | Calculus | 11 | 12 | 10 | 7 | 14 | 17 | 12 | 21 | 18 |
| 28 | Cystitis | 22 | 17 | 12 | 20 | 5 | 24 | 23 | 15 | 12 |
| 29 | Bladder disease, etc. | 17 | 3 | 11 | 13 | 10 | 8 | 5 | 5 | 5 |
| 30 | *Bowel diseases* | *1,631* | *1,900* | *1,944* | *1,961* | *1,947* | *1,818* | *1,726* | *1,210* | *1,921* |
| 31 | Bowels, Inflammation of | 334 | 353 | 315 | 352 | 390 | 339 | 327 | 324 | 350 |
| 32 | Diarrhea | 277 | 292 | 325 | 450 | 371 | 414 | 378 | 261 | 409 |
| 33 | Cholera infantum | 606 | 799 | 592 | 722 | 767 | 628 | 653 | 360 | 781 |
| 34 | Dysentery | 74 | 89 | 128 | 158 | 153 | 183 | 158 | 105 | 160 |
| 35 | Peritonitis | 89 | 116 | 98 | 50 | 46 | 35 | 32 | 22 | 27 |
| 36 | Bowel disease, etc. | 251 | 251 | 386 | 229 | 220 | 221 | 178 | 138 | 194 |

NOTE.—The arrangement of causes of death is uniform in Tables 69, 70 and 71. For explanation of the terms used, their inclusion and relation to the classifications formerly employed in these reports, see text beginning on page 134, to which reference may be made by line numbers.

*causes of death in Michigan for each of the years 1869-92, inclusive.*

| 1869-92. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1883. | 1882. | 1881. | 1880. | 1879. | 1878. | 1877. | 1876. | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. | 1869. | Line No. |
| 16,906 | 16,425 | 19,238 | 16,102 | 14,407 | 12,766 | 12,919 | 12,576 | 11,990 | 12,500 | 14,258 | 13,371 | 9,728 | 10,766 | 9,145 | 1 |
| 13,664 | 13,366 | 15,922 | 13,024 | 11,516 | 10,057 | 10,076 | 9,901 | 9,257 | 9,870 | 11,798 | 11,243 | 7,911 | 8,824 | 7,292 | 2 |
| *5,082* | *5,279* | *6,533* | *5,263* | *4,857* | *3,918* | *3,833* | *3,569* | *3,271* | *3,322* | *4,028* | *4,065* | *3,082* | *3,561* | *2,645* | 3 |
| 1,992 | 1,804 | 1,954 | 1,829 | 1,680 | 1,641 | 1,664 | 1,590 | 1,479 | 1,392 | 1,447 | 1,467 | 1,303 | 1,451 | 1,233 | 4 |
| *126* | *162* | *174* | *144* | *112* | *125* | *138* | *134* | *128* | *129* | *156* | *149* | *119* | *143* | *80* | 5 |
| 9 | 52 | 37 | 26 | 9 | 6 | 11 | 8 | 3 | 8 | 10 | 3 | ..... | 1 | ..... | 6 |
| 48 | 48 | 64 | 42 | 43 | 55 | 60 | 68 | 60 | 59 | 81 | 84 | 65 | 65 | 11 | 7 |
| 25 | 29 | 31 | 32 | 36 | 33 | 32 | 26 | 34 | 23 | 43 | 40 | 38 | 60 | 55 | 8 |
| 32 | 26 | 36 | 28 | 16 | 16 | 23 | 22 | 19 | 28 | 15 | 15 | 12 | 9 | 8 | 9 |
| 12 | 7 | 6 | 16 | 8 | 15 | 12 | 10 | 12 | 11 | 7 | 7 | 4 | 8 | 6 | 10 |
| 284 | 303 | 316 | 257 | 233 | 199 | 145 | 157 | 156 | 132 | 166 | 153 | 146 | 124 | 105 | 11 |
| 52 | 46 | 64 | 65 | 45 | 37 | 19 | 21 | 11 | 10 | 6 | 10 | 9 | 3 | ..... | 12 |
| 1,007 | 1,416 | 2,063 | 1,542 | 1,480 | 889 | 595 | 327 | 213 | 216 | 219 | 196 | 121 | 121 | 89 | 13 |
| 85 | 82 | 86 | 88 | 92 | 75 | 69 | 86 | 108 | 104 | 158 | 151 | 87 | 68 | 69 | 14 |
| 45 | 31 | 57 | 39 | 41 | 16 | 25 | 32 | 42 | 54 | 51 | 44 | 26 | 38 | 21 | 15 |
| 673 | 592 | 384 | 371 | 418 | 429 | 404 | 399 | 423 | 440 | 580 | 565 | 696 | 852 | 252 | 16 |
| 439 | 463 | 884 | 513 | 397 | 329 | 446 | 426 | 433 | 611 | 677 | 621 | 357 | 574 | 437 | 17 |
| 11 | 32 | 49 | 9 | 7 | 18 | 4 | 6 | ..... | ..... | 7 | 1 | ..... | ..... | ..... | 18 |
| 11 | 10 | 19 | 11 | 14 | 5 | 29 | 11 | 14 | 15 | 17 | 31 | 8 | 1 | 9 | 19 |
| ..... | ..... | ..... | ..... | 1 | 1 | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 20 |
| 258 | 150 | 256 | 125 | 167 | 16 | 62 | 118 | 134 | 46 | 245 | 180 | 67 | 56 | 147 | 21 |
| ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 22 |
| 5 | 101 | 82 | 3 | 6 | 6 | 102 | 76 | 26 | 18 | 92 | 302 | 74 | 10 | 42 | 23 |
| 2 | 1 | 3 | 2 | 2 | 1 | ..... | 5 | 3 | 1 | 1 | 2 | 1 | 1 | 3 | 24 |
| 92 | 86 | 142 | 264 | 162 | 132 | 131 | 181 | 101 | 153 | 206 | 192 | 68 | 119 | 158 | 25 |
| *39* | *16* | *28* | *45* | *35* | *37* | *30* | *44* | *40* | *34* | *37* | *33* | *32* | *34* | *30* | 26 |
| 16 | 6 | 14 | 23 | 23 | 23 | 16 | 34 | 21 | 20 | 25 | 23 | 24 | 25 | 24 | 27 |
| 17 | 6 | 10 | 16 | 6 | 10 | 11 | 6 | 14 | 7 | 9 | 6 | 4 | 7 | 6 | 28 |
| 6 | 4 | 4 | 6 | 6 | 4 | 3 | 4 | 5 | 7 | 3 | 4 | 4 | 2 | ..... | 29 |
| *1,315* | *1,257* | *2,201* | *1,443* | *1,039* | *924* | *1,255* | *1,208* | *1,102* | *1,288* | *1,566* | *1,781* | *985* | *1,371* | *993* | 30 |
| 294 | 276 | 342 | 267 | 237 | 214 | 226 | 239 | 218 | 208 | 286 | 234 | 184 | 187 | 119 | 31 |
| 267 | 259 | 501 | 310 | 226 | 173 | 290 | 304 | 283 | 380 | 383 | 437 | 216 | 407 | 311 | 32 |
| 465 | 428 | 857 | 499 | 300 | 243 | 370 | 331 | 289 | 278 | 306 | 394 | 129 | 181 | 103 | 33 |
| 114 | 96 | 270 | 160 | 135 | 158 | 221 | 195 | 162 | 304 | 319 | 456 | 173 | 374 | 236 | 34 |
| 16 | 21 | 19 | 10 | 16 | 11 | 8 | 8 | 14 | 8 | 9 | 13 | 7 | 5 | 5 | 35 |
| 159 | 177 | 212 | 197 | 125 | 125 | 140 | 131 | 136 | 110 | 263 | 247 | 176 | 217 | 204 | 36 |

Table 71.—CONCLUDED.—*Important diseases returned a*

| Line No. | Causes of death, 1869-92. | Years. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | 1886. | 1885. | 1884. |
| 37 | *Brain diseases* | *1,594* | *1,614* | *1,544* | *1,511* | *1,615* | *1,441* | *1,485* | *1,304* | *1,349* |
| 38 | Apoplexy | 219 | 213 | 153 | 159 | 147 | 141 | 161 | 121 | 133 |
| 39 | Brain, Congestion of | 68 | 87 | ------ | ------ | ------ | ------ | ------ | ------ | ------ |
| 40 | Brain, Inflammation of | 292 | 315 | 318 | 341 | 405 | 319 | 332 | 296 | 310 |
| 41 | Epilepsy | 62 | 42 | 54 | 40 | 65 | 54 | 49 | 50 | 43 |
| 42 | Meningitis | 148 | 204 | 180 | 164 | 194 | 184 | 182 | 174 | 224 |
| 43 | Paralysis | 571 | 596 | 558 | 542 | 553 | 465 | 485 | 400 | 397 |
| 44 | Brain disease, etc. | 174 | 157 | 281 | 265 | 251 | 278 | 226 | 263 | 233 |
| 45 | Cancer | 558 | 534 | 533 | 492 | 480 | 453 | 391 | 403 | 361 |
| 46 | Tumor | 139 | 157 | 123 | 102 | 108 | 93 | 91 | 104 | 85 |
| 47 | Childbirth | 244 | 255 | 196 | 254 | 250 | 236 | 223 | 230 | 244 |
| 48 | Convulsions | 548 | 547 | 349 | 453 | 513 | 474 | 431 | 452 | 436 |
| 49 | Diabetes | 69 | 78 | 63 | 74 | 71 | 61 | 68 | 65 | 49 |
| 50 | Dropsy | 389 | 397 | 422 | 337 | 464 | 342 | 334 | 330 | 334 |
| 51 | Fever | 129 | 107 | 123 | 111 | 164 | 117 | 123 | 96 | 133 |
| 52 | Fever, Malarial | 146 | 133 | 146 | 197 | 200 | 171 | 168 | 142 | 186 |
| 53 | *Heart diseases* | *1,329* | *1,346* | *1,186* | *1,182* | *1,055* | *954* | *794* | *789* | *791* |
| 54 | Pericarditis | 97 | 70 | 70 | 61 | 86 | 107 | 64 | 69 | 70 |
| 55 | Heart disease, etc. | 864 | 901 | 1,115 | 1,071 | 969 | 847 | 730 | 720 | 721 |
| 56 | "Heart failure" | 368 | 375 | ------ | ------ | ------ | ------ | ------ | ------ | ------ |
| 57 | Influenza | 907 | 1,076 | 1,084 | 176 | 2 | 2 | 3 | 2 | ------ |
| 58 | *Kidney diseases* | *442* | *407* | *331* | *347* | *351* | *327* | *328* | *304* | *264* |
| 59 | Kidneys, Inflammat'n of | 332 | 271 | 227 | 242 | 241 | 226 | 244 | 215 | 191 |
| 60 | Kidney disease, etc. | 110 | 136 | 104 | 105 | 110 | 101 | 78 | 89 | 73 |
| 61 | Liver disease, etc. | 121 | 167 | 140 | 158 | 172 | 154 | 120 | 147 | 154 |
| 62 | *Lung diseases* | *1,765* | *1,702* | *1,786* | *1,578* | *1,889* | *1,449* | *1,302* | *1,194* | *1,210* |
| 63 | Asthma | 65 | 77 | 74 | 59 | 65 | 59 | 66 | 62 | 61 |
| 64 | Bronchitis | 184 | 138 | 188 | 120 | 199 | 121 | 97 | 113 | 98 |
| 65 | Pleurisy | 30 | 24 | 27 | 25 | 46 | 25 | 20 | 16 | 18 |
| 66 | Pneumonia | 1,298 | 1,248 | 1,224 | 1,132 | 1,313 | 970 | 857 | 804 | 840 |
| 67 | Lungs, Congestion of | 87 | 99 | ------ | ------ | ------ | ------ | ------ | ------ | ------ |
| 68 | Lung disease, etc. | 101 | 116 | 273 | 242 | 266 | 274 | 262 | 199 | 193 |
| 69 | Rheumatism | 149 | 141 | 120 | 154 | 154 | 158 | 145 | 111 | 133 |
| 70 | Septicæmia | 167 | 172 | 153 | 191 | 157 | 121 | 125 | 129 | 94 |
| 71 | Spine disease, etc. | 94 | 106 | 110 | 124 | 114 | 95 | 131 | 88 | 114 |
| 72 | *Stomach diseases* | *178* | *182* | *177* | *153* | *172* | *165* | *118* | *122* | *120* |
| 73 | Stomach, Inflammat'n of | 53 | 49 | 27 | 39 | 43 | 35 | 37 | 44 | 39 |
| 74 | Stomach disease, etc. | 125 | 133 | 150 | 114 | 129 | 130 | 81 | 78 | 81 |
| 75 | Syphilis | 11 | 6 | 7 | 5 | 14 | 4 | 9 | 16 | 14 |
| 76 | *Unclassified* | 1,949 | 1,876 | 1,889 | 2,455 | 2,710 | 2,324 | 2,230 | 2,046 | 2,058 |

Causes of death in Michigan, 1869–92.

| 1869-92. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1883. | 1882. | 1881. | 1880. | 1879. | 1878. | 1877. | 1876. | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. | 1869. | Line No. |
| *1,188* | *1,215* | *1,353* | *1,118* | *944* | *889* | *1,001* | *1,011* | *850* | *893* | *1,655* | *1,161* | *679* | *687* | *663* | 37 |
| 87 | 89 | 111 | 123 | 105 | 95 | 86 | 107 | 94 | 63 | 81 | 70 | 70 | 54 | 65 | 38 |
| | | | | | | | | | | | | | | | 39 |
| 293 | 276 | 361 | 301 | 222 | 225 | 291 | 275 | 232 | 261 | 333 | 330 | 216 | 233 | 226 | 40 |
| 45 | 48 | 63 | 41 | 42 | 31 | 35 | 31 | 31 | 30 | 33 | 28 | 25 | 18 | 12 | 41 |
| 229 | 237 | 332 | 159 | 104 | 110 | 138 | 123 | 166 | 185 | 812 | 360 | 24 | 11 | 13 | 42 |
| 345 | 357 | 260 | 279 | 262 | 242 | 244 | 233 | 172 | 171 | 171 | 154 | 144 | 122 | 120 | 43 |
| 189 | 218 | 226 | 215 | 209 | 186 | 207 | 242 | 155 | 183 | 225 | 219 | 200 | 249 | 227 | 44 |
| 383 | 301 | 310 | 285 | 272 | 269 | 266 | 241 | 203 | 188 | 172 | 133 | 105 | 120 | 113 | 45 |
| 58 | 68 | 86 | 76 | 65 | 56 | 45 | 41 | 55 | 34 | 48 | 31 | 32 | 23 | 20 | 46 |
| 238 | 213 | 202 | 201 | 210 | 173 | 166 | 158 | 194 | 209 | 269 | 236 | 158 | 146 | 127 | 47 |
| 344 | 356 | 337 | 348 | 275 | 288 | 298 | 275 | 258 | 258 | 306 | 315 | 238 | 281 | 256 | 48 |
| 58 | 52 | 49 | 44 | 42 | 33 | 39 | 19 | 36 | 27 | 31 | 35 | 33 | 29 | 25 | 49 |
| 296 | 317 | 283 | 272 | 271 | 256 | 236 | 236 | 237 | 245 | 271 | 234 | 228 | 270 | 251 | 50 |
| 117 | 131 | 193 | 191 | 136 | 124 | 106 | 174 | 132 | 187 | 203 | 219 | 187 | 201 | 289 | 51 |
| 153 | 193 | 241 | 147 | 125 | 125 | 141 | 108 | 116 | 144 | 201 | 208 | 153 | 163 | 121 | 52 |
| *762* | *627* | *620* | *551* | *538* | *444* | *448* | *394* | *380* | *411* | *396* | *366* | *291* | *311* | *274* | 53 |
| 73 | 64 | 101 | 68 | 84 | 76 | 53 | 54 | 68 | 71 | 69 | 56 | 49 | 43 | 22 | 54 |
| 689 | 563 | 519 | 483 | 454 | 368 | 395 | 340 | 312 | 340 | 327 | 310 | 242 | 268 | 252 | 55 |
| | | | | | | | | | | | | | | | 56 |
| 2 | 1 | 2 | 3 | 5 | 3 | 2 | ..... | 6 | 2 | 12 | 6 | 2 | ..... | ..... | 57 |
| *264* | *206* | *187* | *154* | *113* | *113* | *93* | *80* | *54* | *63* | *68* | *60* | *59* | *45* | *32* | 58 |
| 196 | 145 | 112 | 95 | 54 | 45 | 45 | 32 | 23 | 31 | 32 | 27 | 24 | 12 | 3 | 59 |
| 68 | 61 | 75 | 59 | 59 | 68 | 48 | 48 | 31 | 32 | 36 | 33 | 35 | 33 | 29 | 60 |
| 140 | 145 | 143 | 125 | 124 | 141 | 126 | 121 | 112 | 121 | 132 | 135 | 103 | 110 | 71 | 61 |
| *1,204* | *1,216* | *1,262* | *1,279* | *1,107* | *859* | *799* | *994* | *1,137* | *1,223* | *1,043* | *962* | *700* | *625* | *621* | 62 |
| 51 | 50 | 37 | 39 | 39 | 31 | 25 | 23 | 20 | 20 | 21 | 25 | 17 | 22 | 24 | 63 |
| 83 | 100 | 64 | 50 | 49 | 44 | 42 | 42 | 43 | 32 | 20 | 25 | 19 | 20 | 11 | 64 |
| 20 | 16 | 19 | 26 | 20 | 16 | 14 | 19 | 14 | 15 | 18 | 20 | 12 | 11 | 9 | 65 |
| 827 | 834 | 941 | 920 | 794 | 552 | 559 | 695 | 846 | 987 | 793 | 701 | 482 | 405 | 455 | 66 |
| | | | | | | | | | | | | | | | 67 |
| 223 | 216 | 201 | 244 | 205 | 216 | 159 | 215 | 214 | 219 | 191 | 191 | 170 | 167 | 122 | 68 |
| 113 | 107 | 123 | 85 | 85 | 61 | 76 | 70 | 74 | 73 | 72 | 101 | 51 | 44 | 49 | 69 |
| 113 | 80 | 52 | 18 | 6 | 8 | 5 | 5 | 4 | 2 | 2 | 1 | ..... | 1 | ..... | 70 |
| 108 | 94 | 139 | 76 | 83 | 78 | 85 | 75 | 72 | 120 | 174 | 101 | 33 | 39 | 39 | 71 |
| *125* | *106* | *127* | *89* | *99* | *85* | *77* | *76* | *73* | *73* | *83* | *72* | *49* | *67* | *34* | 72 |
| 42 | 33 | 44 | 31 | 32 | 30 | 20 | 22 | 27 | 24 | 36 | 29 | 24 | 23 | 15 | 73 |
| 83 | 73 | 83 | 58 | 67 | 55 | 57 | 54 | 46 | 49 | 47 | 43 | 25 | 44 | 19 | 74 |
| 9 | 6 | 3 | 13 | 10 | 2 | 7 | 6 | 7 | 9 | 6 | 3 | 2 | 10 | 2 | 75 |
| 1,553 | 1,380 | 1,448 | 1,199 | 1,075 | 1,035 | 942 | 996 | 844 | 944 | 1,023 | 985 | 809 | 686 | 647 | 76 |

## DEATH-RATES IN MICHIGAN, 1892, BY COUNTIES.

The death-rate for the State in 1892, based upon an estimated population of 2,185,279, as given in Table 5, p. 13, is 9.9 per 1,000 inhabitants. Since that portion of the report was in type, however, the State census of 1894 has been taken, and the preliminary count of the population on June 1, 1894, is 2,241,439. The mean between these figures and the population of the State in 1890, 2,093,889, is 2,167,664, which may be accepted as a fairly correct estimate of the number of inhabitants in the year 1892. The corresponding death-rate is 10.0 per 1,000, an increase over the former rate of only .1 per 1,000. Michigan has suffered very severely from "hard times" in the last two years, 1893 and 1894, and the distress in the Upper Peninsula following the closure of the mines during the winter of 1893-94 has undoubtedly checked immigration into that part of the State, besides causing many miners who were unincumbered and able to leave, to go elsewhere in search of work. A large proportion of the growth of the State in recent years has been due to the rapid rate of increase in the Upper Peninsula, many of the counties in the southern part of the State showing an actual loss of population between censuses. In view of these facts it appears reasonable to conclude that had the conditions of growth remained as favorable for the past two years as heretofore, the State would not have shown a falling-off in annual growth between 1890 and 1894 as compared with that between 1880 and 1890, and that, therefore, the estimated population for 1892 based upon the annual increase for the previous decade is more nearly correct than the mean of the censuses of 1890 and 1894.

For the purpose of comparing the death-rates of individual counties, however, the rates based upon the censuses of 1890 and 1894 may give better results in some instances than those presented in Table 12 (p. 23). Following is a statement, by geographical divisions, of the death-rates in each county of the State, for the year 1892. The first rate under each county is computed on the mean of the populations of 1890 and 1894; the second rate is that stated in Table 12. Where the difference exceeds .5 per 1,000 the name of the county is printed in *italics:*

I.—Upper Peninsular Division. Alger, 7.6, 7.4; *Baraga*, 11.3, 12.5; Chippewa, 7.2, 7.3; Delta, 8.2, 8.3; *Dickinson, Iron, Marquette and Menominee (taken together since Dickinson was formed from the three other counties in 1891)*, 12.6, 11.6; *Gogebic*, 33.5, 28.9; *Houghton*, 13.9, 14.5; *Keweenaw*, 18.3, 19.9; *Luce*, 10.0, 8.1; *Mackinac*, 5.7, 4.9; *Ontonagon*, 3.8, 5.0; Schoolcraft, 7.1, 6.8.

II.—Northwestern Division. *Benzie*, 8.0, 9.5; *Grand Traverse*, 8.8, 9.5; Leelanau, 6.0, 6.3; Manistee, 8.1, 7.7; Manitou, 2.2, 2.6; Wexford, 7.2, 7.5.

III.—Northern Division. Antrim, 7.6, 7.6; Charlevoix, 7.3, 7.1; Cheboygan, 8.5, 8.4; *Crawford*, 8.1, 6.9; Emmet, 6.7, 7.0; Kalkaska, 8.9, 8.6; Otsego, 7.3, 7.0.

IV. Northeastern Division. *Alcona*, 7.4, 6.8; Alpena, 9.2, 9.1; *Iosco*, 12.2, 9.9; Montmorency, 3.1, 3.4; *Ogemaw*, 5.7, 5.1; *Oscoda*, 6.5, 5.5; Presque Isle, 6.0, 6.4.

V. Western Division. Kent, 11.4, 11.3; *Lake*, 4.5, 3.9; Mason, 8.7, 8.6; *Muskegon*, 11.6, 10.5; *Newaygo*, 5.9, 5.4; Oceana, 5.4, 5.3; Ottawa, 9.4, 9.8.

VI. North-central Division. Clare, 5.8, 5.5; Gladwin, 2.9, 2.7; Isabella, 5.8, 5.8; Mecosta, 6.2, 6.0; Midland, 7.5, 7.8; Missaukee, 7.8, 8.2; Osceola, 6.5, 6.6; Roscommon, 7.0, 6.1.

VII.—Eastern Division. Arenac, 8.1, 8.2; Bay, 10.1, 9.8; Huron, 7.4, 7.4; Lapeer, 6.8, 6.8; Sanilac, 8.6, 8.5; *Saginaw*, 13.2, 12.5; St. Clair, 10.8, 10.8; Tuscola, 6.5, 6.5.

VIII.—Central Division. Barry, 6.9, 7.0; Clinton, 9.1, 9.2; Eaton, 8.9, 8.9; Genesee, 10.2, 10.3; Gratiot, 6.5, 6.3; Ingham, 10.0, 10.0; Ionia, 7.8, 8.1; Livingston, 8.0, 8.1; Montcalm, 7.2, 7.4; Shiawassee, 5.8, 5.8.

IX. Southwestern Division. Allegan, 9.1, 9.1; Berrien, 7.2, 7.4; Cass, 8.3, 8.4; Van Buren, 9.3, 9.4.

X. South-central Division. Branch, 9.6, 9.6; Calhoun, 9.0, 9.2; Hillsdale, 10.6, 10.7; Jackson, 10.7, 10.7; Kalamazoo, 10.6, 10.8; Lenawee, 8.5, 8.5; St. Joseph, 12.5, 12.5; Washtenaw, 10.2, 10.3.

XI. Southeastern Division. Macomb, 10.4, 10.5; Monroe, 9.0, 9.2; Oakland, 10.6, 10.8; Wayne, 13.5, 13.5.

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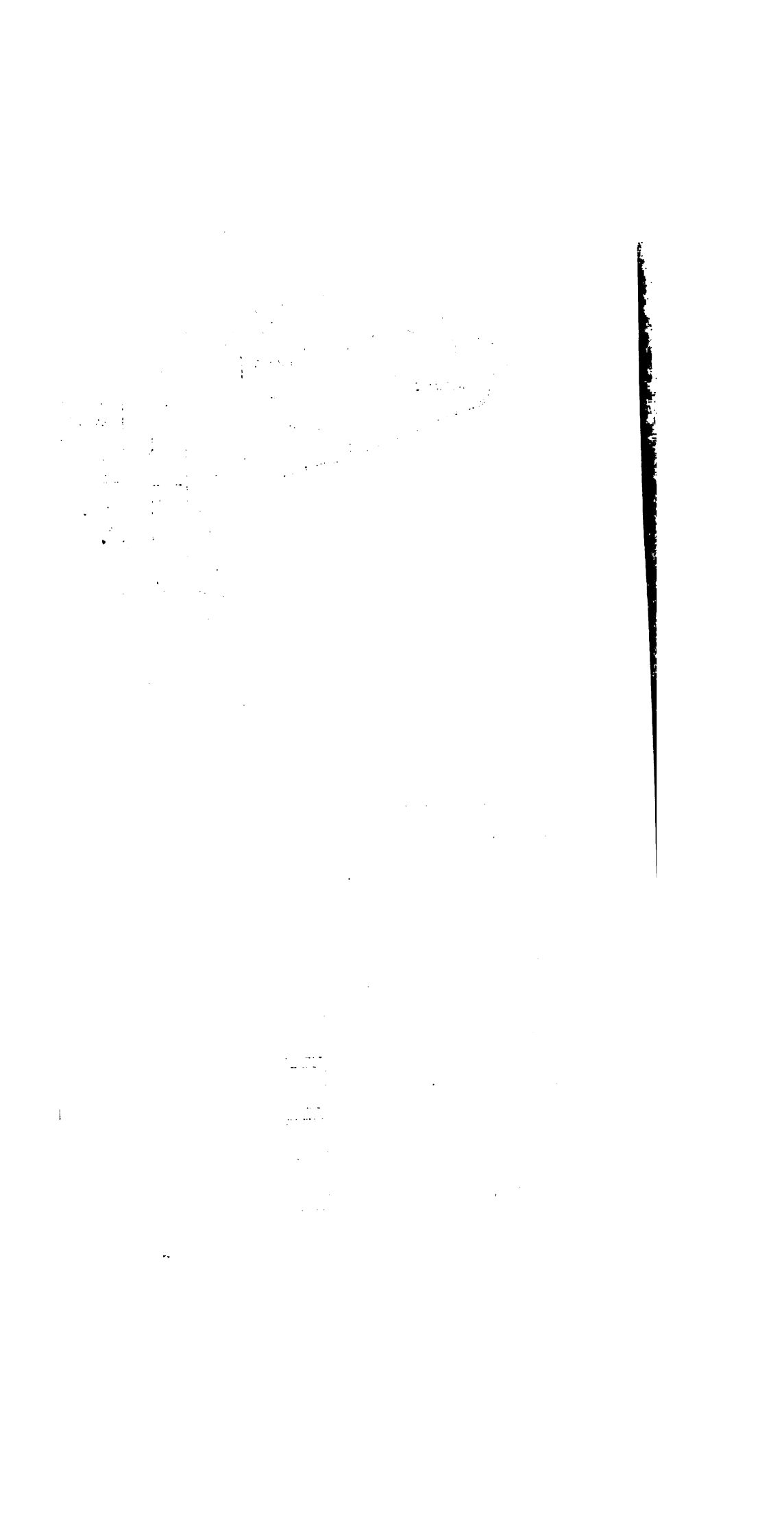


| I. Upper Peninsular. | II. North-western. | III. Northern. | IV. Northeastern. | V. Western. | VI. North-central. | VII. Eastern. | VIII. Central. | IX. South-western. | X. South-central. | XI. South-eastern. |
|---|---|---|---|---|---|---|---|---|---|---|
| Alger. | Benzie. | Antrim. | Alcona. | Kent. | Clare. | Arenac. | Barry. | Allegan. | Branch. | Macomb. |
| Baraga. | Gr. Traverse. | Charlevoix. | Alpena. | Lake. | Gladwin. | Bay. | Clinton. | Berrien. | Calhoun. | Monroe. |
| Chippewa. | Leelanau. | Cheboygan. | Iosco. | Mason. | Isabella. | Huron. | Eaton. | Cass. | Hillsdale. | Oakland. |
| Delta. | Manistee. | Crawford. | Montmorency. | Muskegon. | Mecosta. | Lapeer. | Genesee. | Van Buren. | Jackson. | Wayne. |
| Dickinson. | Manitou. | Emmet. | Ogemaw. | Newaygo. | Midland. | Saginaw. | Gratiot. | | Kalamazoo. | |
| Gogebic. | Wexford. | Kalkaska. | Oscoda. | Oceana. | Missaukee. | Sanilac. | Ingham. | | Lenawee. | |
| Houghton. | | Otsego. | Presque Isle. | Ottawa. | Osceola. | St. Clair. | Ionia. | | St. Joseph. | |
| Iron. | | | | | Roscommon. | Tuscola. | Livingston. | | Washtenaw. | |
| *Isle Royal. | | | | | | | Montcalm. | | | |
| Keweenaw. | | | | | | | Shiawassee. | | | |
| Luce. | | | | | | | | | | |
| Mackinac. | | | | | | | | | | |
| Marquette. | | | | | | | | | | |
| Menominee. | | | | | | | | | | |
| Ontonagon. | | | | | | | | | | |
| Schoolcraft. | | | | | | | | | | |

* Not organized.

It appears that the death-rates stated in Table 12 are sufficiently close to the revised rates based upon a comparison of the populations stated by the censuses of 1890 and 1894 to preclude any serious error except in the cases of some twenty-two counties, eleven of which are in the Upper Peninsula. For these counties the marriage-rates and birth-rates given in Table 12 may be changed in the same ratio as the death-rate,—generally an increase since the population was perhaps overestimated in Table 12,—but the compiler is of the opinion that in nearly all of these counties, even, the rates presented in Table 12 are more nearly correct. For the entire southern part of the State, comprising nine-tenths of the total number of inhabitants, the rates based on either method of estimation are practically identical.

Table 72 shows the counties contained in each geographical division of the State, as subdivided for the purpose of more conveniently studying the distribution of causes of death. This arrangement has been in use in these reports from an early date and much valuable information has been accumulated in connection with it in regard to the distribution of diseases. The map will be useful in showing the relation of these divisions, and also the situation of the different counties of the State to persons not familiar with the geography of Michigan.

The age-distribution of the inhabitants of the several divisions varies widely, and is of importance in considering the distribution of certain diseases. In Table 73 the number and per cent of total deaths of children under five years of age and of persons aged seventy years and over may be seen. This table and also Table 74, which shows the distribution of certain important diseases by geographical divisions, will be referred to again in the text beginning on page 184.

**Table 73.**—*Comparison, by geographical divisions, of the number and percentage of deaths returned in 1892 from "old age" and of persons aged over 70 years and under 5 years.*

| State and geographical divisions. | Deaths at all ages, 1892. | Old age. | | Aged 70 and over. | | Aged under 5. | |
|---|---|---|---|---|---|---|---|
| | | Number of deaths. | Per cent of deaths at all ages by geographical divisions. | Number of deaths. | Per cent of deaths at all ages by geographical divisions. | Number of deaths. | Per cent of deaths at all ages by geographical divisions. |
| State | 21,729 | 1,079 | 5.0 | 3,462 | 15.9 | 7,295 | 33.6 |
| Upper Peninsular | 2,487 | 40 | 1.6 | 76 | 3.1 | 1,333 | 53.6 |
| Northwestern | 538 | 9 | 1.7 | 49 | 9.1 | 226 | 42.0 |
| Northern | 440 | 19 | 4.3 | 47 | 10.7 | 164 | 37.3 |
| Northeastern | 444 | 14 | 3.2 | 27 | 6.1 | 200 | 45.0 |
| Western | 2,503 | 133 | 5.3 | 347 | 13.9 | 879 | 35.1 |
| North-central | 550 | 19 | 3.5 | 63 | 11.5 | 220 | 40.0 |
| Eastern | 3,235 | 181 | 5.6 | 437 | 13.5 | 1,169 | 36.1 |
| Central | 2,530 | 155 | 6.1 | 628 | 24.8 | 514 | 20.3 |
| Southwestern | 1,131 | 73 | 6.5 | 263 | 23.3 | 282 | 24.9 |
| South-central | 3,073 | 207 | 6.7 | 898 | 29.2 | 498 | 16.2 |
| Southeastern | 4,798 | 229 | 4.8 | 627 | 13.1 | 1,810 | 37.8 |

**Table 74.**—*Comparison, by geographical divisions, of the number and percentage of deaths in 1892 from certain specified causes: Consumption, pneumonia, influenza, diphtheria, croup, scarlet fever, typhoid fever, diarrheal diseases.*

| State and geographical divisions. | Deaths from all causes, 1892. | Consumption. | | Pneumonia.* | | Influenza. | | Diphtheria. | | Croup.† | | Scarlet fever. | | Typhoid fever. | | Diarrheal diseases.‡ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Number of deaths. | Per cent of deaths from all causes. | Number of deaths. | Per cent of deaths from all causes. | Number of deaths. | Per cent of deaths from all causes. | Number of deaths. | Per cent of deaths from all causes. | Number of deaths. | Per cent of deaths from all causes. | Number of deaths. | Per cent of deaths from all causes. | Number of deaths. | Per cent of deaths from all causes. | Number of deaths. | Per cent of deaths from all causes. |
| State | 21,729 | 2,060 | 9.6 | 1,298 | 6.0 | 907 | 4.2 | 1,020 | 4.7 | 291 | 1.3 | 442 | 2.0 | 626 | 2.9 | 1,084 | 4.8 |
| Upper Peninsular | 2,487 | 163 | 6.6 | 130 | 5.2 | 19 | .8 | 68 | 2.7 | 42 | 1.7 | 108 | 4.3 | 123 | 4.9 | 180 | 7.2 |
| Northwestern | 538 | 58 | 10.8 | 22 | 4.1 | 25 | 4.6 | 2 | .4 | 2 | .4 | 5 | .9 | 10 | 1.9 | 22 | 4.1 |
| Northern | 440 | 34 | 7.7 | 26 | 5.9 | 16 | 3.6 | 30 | 6.8 | 6 | 1.4 | 5 | 1.1 | 6 | 1.4 | 27 | 6.1 |
| Northeastern | 444 | 23 | 5.2 | 15 | 3.4 | 12 | 2.7 | 37 | 8.3 | 13 | 2.9 | 4 | .9 | 2 | .5 | 17 | 3.8 |
| Western | 2,508 | 254 | 10.1 | 182 | 7.3 | 126 | 5.0 | 141 | 5.6 | 23 | .9 | 28 | 1.1 | 87 | 3.5 | 133 | 5.3 |
| North-central | 550 | 56 | 10.2 | 30 | 5.5 | 32 | 5.8 | 10 | 1.8 | 2 | .4 | 4 | .7 | 11 | 2.0 | 20 | 3.6 |
| Eastern | 3,335 | 328 | 10.1 | 169 | 5.2 | 132 | 4.1 | 192 | 5.9 | 67 | 2.1 | 42 | 1.3 | 94 | 2.9 | 150 | 4.6 |
| Central | 2,530 | 284 | 11.2 | 166 | 6.6 | 136 | 5.4 | 77 | 3.0 | 13 | .5 | 15 | .6 | 50 | 2.0 | 87 | 3.4 |
| Southwestern | 1,131 | 115 | 10.2 | 71 | 6.3 | 86 | 7.6 | 29 | 2.6 | 10 | .9 | 12 | 1.1 | 28 | 2.5 | 35 | 3.1 |
| South-central | 3,073 | 365 | 11.9 | 223 | 7.3 | 205 | 6.7 | 52 | 1.7 | 30 | 1.0 | 22 | .7 | 54 | 1.8 | 78 | 2.5 |
| Southeastern | 4,798 | 400 | 8.3 | 265 | 5.5 | 118 | 2.5 | 382 | 8.0 | 83 | 1.7 | 197 | 4.1 | 161 | 3.4 | 285 | 5.9 |

* Includes 42 cases of typhoid pneumonia, 2 cases of pleuro-pneumonia, and 7 cases of capillary bronchitis.
† Includes 80 cases of membranous croup, specified as such.
‡ Includes diarrhea, dysentery, cholera infantum, cholera (nostras), cholera morbus.

## DISCUSSION OF TABLES RELATING TO IMPORTANT DISEASES RETURNED AS CAUSES DEATH IN MICHIGAN DURING THE YEAR 1892.

It is proper at this point to explain the reasons for the alteration in the form of nosological arrangement exhibited in Tables 69, 70, and 71 as compared with that in former registration reports of this State, and to show that no facts of importance have been lost or obscured in the transition, while the greater condensation of the present form enables a much clearer comprehension to be obtained of the important diseases returned as causes of death in Michigan.

It has been already pointed out that many discrepancies existed in the statements made in previous reports as to the deaths from certain specified causes. Accordingly, no reference was made to the "Nosological Arrangement" or to the "Alphabetical List," would the data obtained vary, owing to the fact that the latter stood in closer relation to the returns, while numerous "consolidations" were necessary in preparing the former in order to accommodate the causes as returned to the form of Dr. Farr's classification. Neither the alphabetical nor classified lists were satisfactory for reference for this reason, and this failing in these important tables rendered it particularly desirable that a series of tables should be inserted in the reports in which the *same name should refer to the same disease in every case.*

This object might have been attained by taking either the nosological list (deaths by counties) or the alphabetical list (deaths by sex, months of death and periods of age) as a standard and making the other list conform to it. Such was the procedure of Dr. Abbott, in the Massachusetts Registration Report for 1887, where the alphabetical list of diseases by sex, months and ages previously in use was replaced by a nosological arrangement in agreement with the nosological classification employed for counties. To adopt the alphabetical list as the standard would be very objectionable, since, under the arbitrary ordering, diseases closely related in nature are widely separated, and there is no certainty, except by very tedious examination, that *all* the deaths from any desired cause are obtained. On the other hand, it did not seem to be desirable to perpetuate the antiquated statistical nosology previously employed, even on the plea of conformity to other registration reports. In matter of fact such conformity was more apparent than real, scarcely any two of the registration reports in this country including exactly the same diseases under the same Farrean classes and orders.

Dr. Farr's system of nomenclature and classification of causes of death, as approved by the International Statistical Congress held in Paris in 1855, is substantially that employed in the registration reports of Massachusetts, New Hampshire, Ohio, Rhode Island (with modifications from the later classification), Vermont and Michigan,—up to the present report. It is also in use in many municipal registration reports in various states. From the time of its introduction into the English Registrar-General's reports to the year 1861 it had undergone certain changes as applied in different tables, so that the Registrar-General states that for some years prior thereto, "three different classifications of the assigned causes of death had been used in the annual reports from this office." Such condition of the classification, "having this great defect, that the headings with special names, in many cases, did not stand for precisely the same causes of death under identically similar headings in other tables," was the reason that impelled the Registrar-General to introduce in 1861 a new and uniform arrangement which has been generally adopted in the English colonies and in some of the states of this country. Among these may be mentioned Alabama, Connecticut, Illi-

nesota, Washington and West Virginia. The Province of Ontario uses a condensed form of the old type. Now when we see the terms of the Farrean system employed, such as "Zymotic Diseases," "Constitutional Diseases," etc., we have to consider before we compare them whether the city or State in whose reports they appear makes use of the old or of the later forms of tabulation. In some cases it makes little difference whether one or the other be employed, but in others the variations are of sufficient importance to be worthy of consideration. Thus in the old form of classification croup was ranked among the "Miasmatic" diseases of the "Zymotic" class. The Registrar-General placed croup, "in deference to the classification of the College of Physicians," but with some personal protest, among "Local Diseases," in which place it appears in the latest English reports. Today the tendency is to consider fatal cases of croup, especially if stated to be "membranous," as diphtheria. In the Connecticut registration reports, "membranous croup" is classed with diphtheria, while "catarrhal croup" accompanies bronchitis, pneumonia and other diseases of the respiratory organs, supposed, at the time of the formation of the classification, to be non-specific in character. In Michigan we receive no returns of "catarrhal croup," but few of spasmodic croup, and about one-third of the total number specified as "membranous croup." It is a fair presumption that a large share of the remaining cases of "croup," (not otherwise specified) were diphtheritic in character. It would be a distinct retrogression were we, in the Michigan reports, to separate croup from its close connection with diphtheria, as would be necessary in strict adherence to the prevailing English nosological arrangement.

There are many reasons why Dr. Farr's classification, even in its latest type as exemplified in the English registration reports at present, is unsatisfactory, and why it should be exchanged for a better one as soon as we shall have such an arrangement properly prepared and authoritatively introduced. The old terms designating the orders and classes of causes of death have become largely obsolete, and are even, in some cases, misleading, with our present views of etiology. Dr. Abbott, in a paper before the Massachusetts State Medical Society some two years ago,* made certain severe strictures on the terms employed in the Massachusetts reports (the old system of Dr. Farr), some of which are equally applicable to the latest form of that classification. He says, with much force:—

"In the class of deaths from Developmental Causes, *old age*, for example, a most common term in death certificates, cannot be called a cause of death, much less a disease. It is simply a period of life, and the use of the term in certificates is simply a confession of our inability to give an exact statement of the true cause."

"The first question I have to propose is whether the term *zymotic* as a general name of the first class or division may not be supplanted by some term which is better adapted to the progress of medical science."

"Does the term *miasmatic* properly describe the diseases of the first group of Class I?"

"In Class II of the list now in use (Constitutional Diseases) may be found the most destructive of all diseases in our climate and in our State (tuberculosis). It was placed in this class according to the belief of the profession of fifty years ago. Does not modern observation, and more intimate knowledge of its history, require that it should be placed in the first class with other infectious diseases?"

This last objection, were the others of even less weight, will lead to the discontinuance of Dr. Farr's classification as an approved form for expressing the results of registration. The shifting of such a large number of deaths as are annually recorded in most of the registration reports using this system from "Constitutional Diseases" to "Zymotic Diseases" will quite alter the relations of these classes, and when cancer,

* Medical Communications, 1892; XV, 747.

"dropsy," diabetes and rheumatism (diabetes and rheumatism are in this class according to the later, but not the earlier arrangement; "dropsy" was removed from this class by the later classification to the class of "Ill-defined and not specified causes"), are also removed from "Constitutional Diseases," we shall have practically nothing at all left in that class.

"Developmental Diseases" will undergo almost as great a shrinkage as "Constitutional Diseases" from recognition of the facts that "old age," "still-born," "debility," "infantile" and "teething" are practically equivalent to a return of "unknown" cause of death. It is true that returns of "old age" and "still-born" carry some information in regard to ages of decedents, and that ages of decedents convey some suggestion as to possible modes of death, but these are better studied in the tables specifying ages of decedents in which the influence of age can be studied in all alike.

There will be left of the five classes of the original form, probably only three,—zymotic and local diseases and deaths from violence. Even of these, the first class, zymotic diseases, will probably be otherwise designated (perhaps as specific infectious diseases), and will include many causes of death that are now classed among the local diseases. We shall then have an arrangement somewhat as follows:—

TOTAL DEATHS FROM ALL CAUSES.

A.—DEATHS FROM DISEASE.

I.—*Specific Infectious Diseases*, including small-pox, enteric fever, typhus fever, yellow fever, diphtheria and croup, measles, scarlet fever, malarial fever, tuberculosis (in all forms), whooping-cough, influenza, pneumonia, cerebro-spinal meningitis, erysipelas, septicæmia, Asiatic cholera, dysentery, leprosy, glanders, actinomycosis, rabies, tetanus, possibly cancer, syphilis and all other diseases of which the chief etiological factor is one or more vegetable or animal micro-organisms.

II.—*Local or Organic Diseases*, consisting of all those diseases dependent chiefly on changes in the anatomical or functional constitution of the body, and not due to a specific infection.

B.—DEATHS FROM VIOLENCE, either (1) accidental; (2) homicidal; or (3) suicidal.

Deaths in which the cause is unknown or unspecified may be included in total deaths but cannot be assigned to either deaths from disease or deaths from violence. Under an efficient system of registration based upon physicians' certificates, such deaths become of very slight importance numerically. Still-births and premature births are practically deaths in which the causes, whether affecting the fœtus directly or through the mother, are not distinguished. They may be included in or excluded from total deaths (the latter is the prevailing practice owing to the imperfect registration of still-births in many places), but for practical sanitary use of mortality statistics they should be uniformly excluded. The basis of reference in stating the percentage relations of deaths from any specified disease is properly the total number of deaths from *specified diseases*, deaths from violence, "unknown" causes, still-births and premature births excluded.

In the tables in this report this arrangement has been introduced but partially, and the class of specific infectious diseases distinguished includes only those "dangerous communicable diseases," as defined by the State law, which are in process of restriction by the State Board of Health. It is very desirable that the registration offices of this country unite upon some uniform, modern system of classification, but until this is done it would seem premature to introduce any formal arrangement, beyond that required by the actual necessities of registration in this State.

BASIS OF PROVISIONAL CLASSIFICATION OF CAUSES OF DEATH EMPLOYED IN THIS REPORT.

While it seemed imperative, in the preparation of the tables in the present report relating to causes of death, to recast them so that they should be uniform and consistent with themselves in the facts stated, it was not an easy matter to decide upon the actual changes to be made. Condensation seemed equally desirable with uniformity in order that the facts concerning the most important causes of death might not be buried in a mass of unimportant details, and that thus the data derived from the State system of registration might become of greater practical utility than heretofore to the people of the State.

Were there at present a modern and generally accepted statistical classification of diseases in use, the matter would have been much simplified. The objections to the employment of the later English arrangement, which has at present the greatest vogue, have already been stated, and it seemed inadvisable to go to the labor of throwing the tables into a form which will probably be radically altered in the immediate future. Recognizing, therefore, the fact that no satisfactory nomenclature and classification of causes of death is available, and that there appears to be no immediate prospect of such a classification being introduced into practical use among registration reports, a *temporary or provisional plan* was adopted which should have reference to the special necessities of the registration of deaths in this State, and to the practical uses likely to be made of such statistics by the Michigan public health service. In the preparation of Tables 69, 70 and 71 the following principles were followed, with such variations as seemed to be required by special exigencies:

1. A statistical classification of diseases registered as causes of death should be as succinct as possible without confusion of distinct diseases.

2. Statements in regard to definite diseases are more important and more reliable for general purposes of comparison than those in regard to groups of diseases.

3. The tables should be arranged with especial reference to the principal uses which will be made of them. As a rule the data contained is most valuable for reference by public health officers, and, therefore, should give especial prominence to such diseases as are in course of restriction by the public health service.

4. The classification must bear reference to the source of the returns, and the probable amount of error in the original statements received by the compiling office. When the returns are made by non-medical enumerators, as in Michigan, we can feel sure of only the plainest and most easily recognized characters. When based upon physicians' certificates, and especially if the central registration office correct all doubtful returns by correspondence, the statements are more valuable, and finer distinctions may be made.

5. Where forms of disease are definitely distinguished in only a small proportion of of the returns it may become necessary to make statistical divisions on more comprehensive, although more indefinite, lines.*

* As an example take the case of heart diseases. Out of a total of 864 deaths from heart diseases (not including "heart failure") returned in Michigan for the year 1892, no less than 798 were reported as "heart disease" without any other qualification. There were 6 deaths returned from fatty degeneration, 8 from hypertrophy, etc. Now if these definite forms were separately stated, their number would not only be too small for any valuable conclusions to be drawn, but the average reader would be in danger of concluding that only the small numbers of definitely specified forms of heart diseases had occurred, not considering that many more are included in the general term "heart disease." For this reason the tables state the deaths from "heart disease, etc.," which includes with the number specified only as "heart disease" the definite forms of heart disease referred to in the text on that subject. This is, of course only a provisional arrangement, and is subject to change whenever the registration of causes of death improves in precision sufficiently to warrant finer distinctions. In the meantime, the numbers of all definitely specified causes of death, however small, are preserved for future reference (at present, by means of the alphabetical list, Table 90).

... completed tables shall show certain indefinite returns in ... amount of deficiency in definitely specified diseases on account ... registration may be inferred.

... classifications of causes of death may be usefully employed in the ... special features of mortality, some one principal arrangement ... should be carried out uniformly in a complete series of tables ... statistical relations of the deaths registered from all points of ... and the same term should always refer to the same disease or group ... change in methods of classification, tables should be pre- ... form for all preceding years of registration in order that com- ... may be made accurately made.

## "REVISED" DISEASES AND GROUPS OF DISEASES, 1892.*

... Causes, 21,729. This is the gross number of deat... s ... 92, and contains, besides deaths from disease, 17,578 in numb... r, ... premature births, 1,144 deaths from violent causes and 1,915 dea... hs ... were entirely "unknown" or unspecified. Comparison may ... be ... years by means of Table 5, page 13, in which the death-rates ... er ... expressed. It there appears that although a larger number of ... this year than for any year preceding, with the exception of ... the year, 0.9 per 1,000, is lower than that for any year since 18... 86. ... deaths and death-rates are stated for previous years ... of ... of still-births, and also with some distinction of age-peri... ds ... gives much more useful information than the table that mer... ely ... mortality. Thus, for 1892, we see that the mortality of infa... nts ... compared to the total number of inhabitants of that age ... as ... since 1885, and the percentage of deaths at that age to deaths ... at ... any previous year of registration. For children under ... ve ... death rate and the percentage of total deaths were lower t... an ... the age-period 5 to 14, inclusive, shows a tendency in ... the ... death rates for adults, in youth, middle-age and early advan... ced ... as compared with the immediately preceding years, altho... gh ... preceding years of registration, but the death-rate of the a... ed, ... was the highest known in the history of the State regis... tra- ... thus shows where the brunt of the mortality falls during ... the ... the individual diseases recorded as causes of death dur... ing

... death rates in Michigan, exclusive of still-births, with those ... of ... may be found in Table 9, Part I, and in Table 76, follow... ing, ... 1880. It must be remembered that the Michigan retu... rns ... that, consequently, the fluctuations and not the absolute ... rates ... The same caution should be heeded in comparing the ... rates ... stated in Tables 76 to 81. If the Michigan rates be ne... arly ... increased by 60 per cent, they will probably be comparable ... with ... than if taken as computed directly from the returns.

... parenthesis before each disease correspond with the *line numbers* in Table...

Such corrections are not necessary in comparing the rates in Michigan for 1892 with those for previous years. While the accuracy of registration has probably varied somewhat from year to year, such variation has been within comparatively narrow limits, so that the hypothesis of a constant ratio of omissions may be employed without much risk of erroneous conclusions. For some important diseases, series of death-rates have been calculated extending from the first complete calendar year of registration (1869) to the present time (1892), and corresponding series may easily be obtained for any of the diseases or groups of diseases given in Table 71 by using the estimated populations stated in Table 4, or, more conveniently, by means of the logarithms there given. Diagrams illustrative of the variations in the rates of some of the most important diseases, as consumption, pneumonia, diphtheria and croup, typhoid fever, scarlet fever and measles, are also presented. These diagrams were prepared by the State Board of Health from data furnished from the State department, and were kindly loaned for this report by the Secretary of the State Board of Health, Dr. Henry B. Baker.

The distribution of the recorded mortality for 1892 was peculiar, as already pointed out (p. 108), from the fact that a larger number of deaths was returned for January than for any other month. Although January is probably an average month so far as its death-rate is concerned, the long interval that elapses between the occurrence of a death therein and the time of its registration (in May of the following year) has caused this month to stand nearly or quite at the foot of the list in regard to the number of deaths registered. In 1892, for the first time in the history of registration in this State, January exceeded all the other months in the number of deaths reported. The percentage of omissions for lapse of time probably remaining the same as in previous years, the actual number of deaths that occurred in this month must have been excessive; the returns, on their face, give no clue to the remarkable amount of mortality during this part of the year. The causes that seem to have contributed most largely thereto are influenza, pneumonia and consumption, which were especially fatal at advanced periods of age.

(2) Specified Diseases, 17,578. This is the total number of deaths reported from *disease*. It excludes deaths from violence, 1,144; still-births, 1,014; premature births, 78, and deaths from "unknown" or unspecified causes, 1,915. These deductions being made, we have a better and more uniform basis of statement for ratios of special diseases to total deaths from all specified diseases, both for the State and counties, than when such ratios were referred to total deaths. In some counties, as in Gogebic for the present year, careless and inaccurate registration may cause a very large number of deaths from unspecified causes to be returned. If the ratio from any specified cause be referred to the total number the per cents will appear too low as compared with any county having a less proportion of unspecified causes of death. Still-births are also subject to great variations in accuracy of registration, in different counties, while it is evident that for sanitary purposes, the most important uses to which these mortality statistics are put, deaths from accidents and other forms of violence have little significance.

(3) *Dangerous Communicable Diseases, 5,029.* While all diseases that cause death are dangerous, and all of the specific infectious diseases are, under proper conditions, communicable, this group does not exactly correspond, for the purposes of the present report, with the class of specific infectious diseases. For reasons already stated, it seemed desirable to make a practical division in the arrangement of causes of death in this report based on the efforts at prevention and restriction of certain diseases by

Michigan State Board of Health. This list, therefore, contains only such diseases (with one trifling exception) as have been put under ban by the health service of the State, and will hence be of special value as an index of the efficiency of the restrictive and preventive methods adopted.

In the case of consumption, the most important disease of all, its position in the list of dangerous communicable diseases for the year 1892 is somewhat anticipatory, since the action of the State Board of Health in regard to it did not take place until September 30, 1893. This is of no practical moment, since it is designed to place all infectious diseases in this list as soon as action is taken upon them by the State Board, and to include them in the table of previous years (Table 71) in the corresponding position.

(4) **Consumption, 2,080.** This number consists only of cases returned as such, or under some equivalent expression, as *tuberculosis*.* It does not include 31 deaths from hemorrhage of the lungs, which might have been added with little risk of error, although this symptom is not necessarily caused by pulmonary tuberculosis. Deaths reported from "lung disease" are probably due to consumption in most cases, the former term being merely a euphemism for the latter. It is probable, also, that a certain number of deaths returned from asthma, bronchitis, pneumonia, and a large proportion of those returned from pleurisy are in reality deaths from consumption. However this may be, the number of deaths returned directly from consumption, as given above, will be found sufficiently representative of the total number that occurred, and may be compared with those registered for previous years (Table 71) in order to show the variations in mortality from this disease.

Consumption was classed among the "Developmental Diseases" of the old classification employed in these reports, and was formerly supposed to depend upon a peculiar diathesis or habit of the body which was transmissible or hereditary in character. The discovery of the *bacillus tuberculosis* by Koch, and the determination of its invariable agency in the causation of tuberculosis of all forms in man and animals, has entirely revolutionized the opinion of the profession in regard to this disease. As well expressed by Prudden, in a paper before the New York Academy of Medicine,† "That there are many contributory factors in the acquirement of this disease—vulnerabilities of the individual, both hereditary and acquired, predisposing vicissitudes of environment—one cannot, it seems to me, deny, nor should he measure lightly. But the one thing without which tuberculosis cannot come to man or beast is the living tubercle bacillus. All the vulnerabilities and predispositions and favoring vicissitudes which we either know or can conceive of, cannot, without this particular germ, light up this particular disease. . . . Slowly but surely we have learned that what once was thought to be hereditary transmission of the disease is often only household poisoning, or, at most, an entailed vulnerability in the presence of the germs, derived from whatever external source. . . . The main point is that tuberculosis is a communicable disease, and that the chief element in its conveyance is the uncared-for sputum of victims of pulmonary tuberculosis."

The Michigan State Board of Health took action, in accordance with the prevailing view, for the restriction of tuberculosis by the following resolution passed September 30, 1893: "*Resolved*, That hereafter, consumption (and other diseases due to the *bacillus tuberculosis*) shall be included in the official list of 'Diseases dangerous to the public health,' referred to in sections 1675 and 1676 of Howell's Statutes, requiring notice by

* *According to previous usage of these reports, though not entirely proper, as tuberculosis of other organs than the lungs may be occasionally intended.*
† *Transactions, 1893; p. 21.*

householders and physicians to the local health officer, as soon as such a disease is recognized." In the tables in this report consumption heads the list of dangerous communicable diseases (causing, on the average, about twice as many deaths each year as the next most fatal infectious disease, diphtheria), and special attention will be given to the study of its distribution through the State.

In Table 74 the number of deaths and the percentage to total deaths from all causes are given for the eleven geographical divisions of the State. As compared with the corresponding table for 1891, the proportions are more uniform, but the Upper Peninsular, Northern, Northeastern and Southeastern divisions show low percentages for both years. A more satisfactory method is to study the county rates for a period of years. Thus, taking the average of the reported number of deaths from consumption in each county for the years 1888 to 1892, and calculating the rate per 100,000 population of this average, according to the United States census of 1890,—the middle year of the period,—we have the following statement, in which the number immediately after the name of each county expresses the average number of deaths per annum during the five-year period; the second number, in *italics*, the death-rate per 100,000 mean population for that time. Four groups of counties are distinguished: (1) Those in which the mean death-rate from consumption during the years 1888-92 was over 50 per cent above the average rate for the State; (2) counties having rates above the average, but less than 50 per cent above it; (3) counties having rates below the average, but not more than 50 per cent below; (4) counties having rates over 50 per cent below the average. These groups are distinguished on the Map (opposite page 181) by different degrees of color.

DEATHS AND DEATH-RATES FROM CONSUMPTION, BY COUNTIES, 1888-92.

(STATE: Average deaths per annum, 2,209.8; *death-rate, 105.5 per 100,000.*)

*Over fifty per cent above the average:*—Emmet, 19.4, *221.6*; Wayne, 447.2, *173.9*.

*Less than fifty per cent above the average:*—Allegan, 41.2, *105.7*; Baraga, 4.0, *131.8*; Benzie, 6.6, *126.0*; Branch, 32.4, *120.9*; Calhoun, 47.4, *109.0*; Cass, 24.2, *115.5*; Eaton, 37.2, *115.9*; Ionia, 35.2, *107.3*; Kalamazoo, 41.6, *105.9*; Kent, 132 8, *120 8*; Leelanau, 9.2, *115.8*; Lenawee, 60.0, *123.8* Macomb, 40.6, *127.6*; Manitou, 1.0, *116.3*; Monroe, 38.2, *118.1*; Muskegon, 49.8, *124.5*; Oakland, 48.2, *116.9*; Saginaw, 96.6, *117.4*; St. Joseph, 36.6, *144.3*; Van Buren, 40.0, *131.0*.

*Less than fifty per cent below the average:*—Alcona, 3,2, *59.2*; Alpena, 10.8, *69.3*; Arenac, 5.8, *102.1*; Barry, 18.2, *76.5*; Bay, 49.6, *87.9*; Berrien, 37.6, *91.1*; Charlevoix, 7.4, *76.4*; Cheboygan, 9.6, *80.1*; Chippewa, 9.4, *78.2*; Clare, 4.0, *52.9*; Clinton, 21.8, *82.2*; Crawford, 1.8, *60.8*; Delta, 15.2, *99.2*; Dickinson, Iron, Marquette and Menominee (taken together since Dickinson was formed from the three others in 1891), 49.8, *64.2*; Genesee, 41.4, *105.0*; Gogebic, 8.6, *65.3*; Grand Traverse. 13.0, *97.3*; Gratiot, 20.8, *72.6*; Hillsdale, 30.8, *100.5*; Houghton, 25.6, *72.3*; Huron, 20.4, *71.5*; Ingham, 37.4, *99.3*; Iosco, 9.0, *59.2*; Isabella, 18.8, *100.1*; Jackson, 41.0, *91.0*; Kalkaska, 3.2, *62.0*; Keweenaw, 2.6, *89.8*; Lapeer, 20.8, *71.2*; Livingston, 17.0, *81.5*; Mackinac, 5.8, *74.1*; Manistee, 15.2, *62.7*; Mason, 14.6, *89.1*; Mecosta, 17.8, *90.4*; Midland, 7.8, *73.2*; Missaukee, 4.0, *79.2*; Montcalm, 25.6, *78.4*; Oceana, 9.4, *59.9*; Osceola, 12.0, *82.0*; Otsego, 2.8, *65.5*; Ottawa, 32.2, *91.1*; Roscommon, 1.6, *78.7*; Sanilac, 32.8, *100.0*; Schoolcraft, 4.0, *68.8*; Shiawassee, 22.2, *71.7*; St. Clair, 49.6, *95.2*; Tuscola, 33.6, *103.4*; Washtenaw, 44.0, *104.2*; Wexford, 6.6, *58.5*.

*Over fifty per cent below the average:*—Alger, 0.4, *32.3*; Antrim, 4.6, *44.2*; Gladwin, 0.4, *9.5*; Lake, 2.4, *36.9*; Luce, 0.6, *24.4*; Montmorency, 0.2, *13.4*; Newaygo, 8.8, *43.0*; Ogemaw, 2.6, *46.6*; Ontonagon, 1.8, *47.9*; Oscoda, 1.0, *52.5*; Presque Isle, 1.4, *29.9*.

A map constructed for the year 1892 on the same plan as that for the five-year period shows certain peculiarities that are worthy of remark. Muskegon, Benzie, Baraga and Emmet counties show mortalities over fifty per cent above the average, while Wayne county drops into the class below. The entire southern portion of the State, including the three lower tiers of counties, show death-rates above the average, with the excep-

tion of Allegan, Berrien, Kalamazoo, Barry and Macomb counties. The counties of the Huron peninsula nearly all show higher death-rates than the State average, contrary to the experience of the five-year period.

The question as to whether consumption is increasing or decreasing is of much interest, and since the general adoption of restrictive methods by public health boards, it is a matter of no little practical importance to definitely determine this fact. Public health officials are too apt, when occasion serves, to press the natural fluctuations of disease into their service as corroborative of their particular methods of restriction. Nearly all of the specific infectious diseases display periodic fluctuations (well shown in the diagrams of measles and scarlet fever), which are dependent in part on the natural history of the disease germ, in part on the meteorological conditions that favor the access of these germs to the system, and in part on the organized efforts at restricting and limiting their prevalence. All of these factors must be taken into account by the public health official who claims that his work has resulted in a lessened mortality from any disease. A health officer whose term of service begins, for instance, at the crest of a wave of scarlet fever, is apt to claim, honestly enough, but mistakenly, that his efforts have materially contributed to the decline of the disease. In fact such a decline, possibly not so abrupt or to such an extent, would have occurred under any circumstances, the unprotected material upon which the disease feeds having been consumed. In consumption, a disease of a chronic character and very different in its course from the acute infectious diseases that were first made the subjects of restrictive legislation, it may be assumed that the natural fluctuations of the disease will be of longer periodic length than in the exanthemata, and will accordingly require the examination of statistics extending over longer periods in order to decide as to the natural fluctuations of the disease. The matter is further complicated by the fact that changes in medical fashions of designating diseases and improvements in the diagnosis of disease must be considered in examining statistics of causes of death extending over any considerable interval of time. The same remark applies in examining the statistics of different countries, with varying standards of medical education.

In Table 71 the deaths returned from consumption for each year of registration in Michigan from 1869 to 1892 may be found, and in the following statement the death-rates for each year, based upon the estimated populations given in Table 5, are presented:

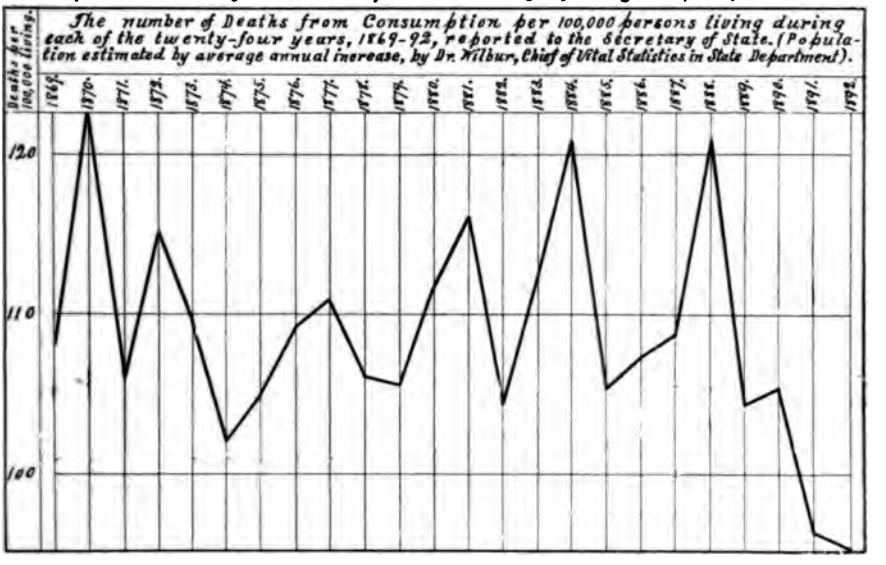
*Death-rates from consumption in Michigan per 100,000 population, 1869-92.*

| Years. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | 1886. | 1885. | 1884. | 1883. | 1882. | 1881. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Death-rates.. | 95.2 | 96.3 | 105.4 | 104.3 | 121.0 | 108.7 | 107.3 | 105.3 | 120.8 | 112.8 | 104.4 | 116.1 |
| Years. | 1880. | 1879. | 1878. | 1877. | 1876. | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. | 1869. |
| Death-rates.. | 111.7 | 105.6 | 106.1 | 110.9 | 109.2 | 104.9 | 102.0 | 109.6 | 115.1 | 106.0 | 122.5 | 108.1 |

It would seem that the mortality from consumption in this State has remained nearly the same for the period of twenty-four years covered by the registration returns. For the last two years of registration, 1891 and 1892, a remarkable decrease is seen to have taken place, but this, it is believed by the compiler, is due rather to the large number of deaths of consumptives returned as having been caused by influenza (which

## (DIAGRAM III.)

*Reported Deaths from Consumption in Michigan, 24 Years, 1869-92.*




## (DIAGRAM IV.)

*Reported Deaths from Pneumonia in Michigan, 24 Years, 1869-92.*

undoubtedly accelerated death in many cases, although not the primary cause) than to any actual decrease of the death-rate from tuberculosis. In the Eastern States, in which death-certificates are required and more accurate statements of causes of death are consequently obtained, the death-rates from consumption and other diseases of the respiratory organs show usually a marked increase attendant on the prevalence of influenza.

Examination of Table 78 shows that the mortality from consumption is considerably higher in the Eastern than in the Western States, even after due allowance is made for defects of registration in the latter. In the Western States, however, as in Michigan, the mortality from consumption remains fairly constant through the period of years covered, while in the Eastern States and in England the diminution in the death-rate has been uniform and considerable in amount.

(5) ***Other tubercular diseases, 208:*** (6) **Marasmus, 109;** (7) **Tubercular meningitis, 33;** (8) **Scrofula, 17;** (9) **Tabes mesenterica, 37;** (10) **Other forms of tuberculosis, 12.** Of the deaths from tubercular meningitis, 2 were returned as such and the remainder either as hydrocephalus or "dropsy of brain." Scrofula includes 1 case of "glandular disease." In tabes mesenterica are 36 deaths returned from "consumption of bowels" and 1 case of tubercular peritonitis. Other forms of tuberculosis include 9 deaths from hip-joint disease, and 3 from tubercular laryngitis. The above inclusions are made in order to conform, as far as possible, with the previous usage of these reports, but the supposition that all of the cases included are really tubercular in character is more than doubtful. Thus, nearly all of the returns of marasmus come from a certain hospital in Detroit, and imply, in all probability, merely a wasting disease of any nature, perhaps consequent on cholera infantum or some other intestinal disorder. "Consumption of bowels," although defined as "intestinal tuberculosis" by Foster, is not necessarily intended in common language to signify more than a wasting diarrheal disease. The more correct definition is given by Gould, who refers it to chronic inflammatory diarrhea.

Taken altogether, this group may stand for some important causes of death due to the bacillus tuberculosis, that we do not have accurately returned at present. Many deaths from "unknown" causes, "weakness," "malnutrition," etc., should properly be reported under this head. Much educational work is necessary before we shall have an exact statistical account of the protean forms in which the tubercle bacillus attacks the human organism, and the importance of deriving our information directly from physicians' certificates of causes of death is nowhere more forcibly indicated than in regard to these obscure diseases.

***Diphtheria and Croup, 1,311:*** (11) **Croup, 211;** (12) **Membranous croup, 80;** (13) **Diphtheria, 1,020.** For practical sanitary purposes diphtheria and croup are identical, and are so treated by sanitary (and many registration) authorities at the present day. As far back as February, 1889, the following resolution was unanimously adopted by the Michigan State Board of Health:

"WHEREAS, It is often impossible to discriminate between cases of diphtheria and membranous or inflammatory croup; and

"WHEREAS, Modern researches point to a probable common origin of these diseases;

"***Resolved,*** That in the opinion of this Board membranous or inflammatory croup should be classed with diseases communicable and dangerous to the public health and should be reported as such, and the same precautions should be taken in cases of this disease, as regards isolation and disinfection, as in cases recognized as diphtheria."

In this report the deaths from diphtheria, membranous croup and croup (unspecified) are distinguished in the tables as in previous years, but it is recommended that the aggregate number of deaths from the three classes of returns be considered, rather than that reliance be placed on those returned as diphtheria only. In most counties the ratios between deaths from "croup" and diphtheria are quite constant, but in some the tendency is to report fatal cases of what is probably the same disease as croup; in others, as diphtheria.

Next to tuberculosis, diphtheria is the most formidable specific infectious disease commonly prevalent in this State. Its fluctuations during successive years of registration may be studied in the following table (in which deaths from croup are included), or in the diagram, which represents the deaths returned as diphtheria alone. The most remarkable fact in regard to the course of diphtheria in this State is its extensive prevalence in 1881, in which year the mortality from this disease exceeded that from consumption. From 1881 to the present time the death-rate has declined, with some indications of a periodic movement, and under the active restrictive measures employed by the State Board of Health, will probably never again reach its former height.

*Death-rates from diphtheria and croup in Michigan per 100,000 population, 1869-92.*

| Years. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | 1886. | 1885. | 1884. | 1883. | 1882. | 1881. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Death-rates. | 60.0 | 63.0 | 83.0 | 61.1 | 59.8 | 68.2 | 79.4 | 74.6 | 76.4 | 75.7 | 102.1 | 145.2 |
| Years. | 1880. | 1879. | 1878. | 1877. | 1876. | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. | 1869. |
| Death-rates.. | 113.9 | 110.5 | 72.8 | 50.6 | 34.7 | 26.9 | 26.2 | 29.6 | 28.2 | 22.5 | 20.9 | 17.0 |

Some interesting comparisons may be made by means of Table 79 of the relative death-rates from diphtheria and croup in Michigan, certain other States and England during the years 1880-92. It cannot be assumed that diphtheria is any more accurately reported in this State than deaths from all causes, which are known to be deficient to an amount probably not less than 60 per cent of the total number reported. When, therefore, we find, as we do in the examination of Table 79, that the death-rate from diphtheria in Michigan, with no corrections for inaccurate registration, far exceeds the death-rates from this disease in States where registration of deaths is more reliable, we are enabled to gain some idea of the terrible degree of its prevalence in Michigan. For the year 1881 the registered mortality, which is probably not much more than 60 per cent of the actual death-rate, exceeded that recorded for any other State from 1880 to 1892, except for New Jersey in the year 1887-88. Deaths are accurately registered in New Jersey, so that the high Michigan death-rate for 1881 was probably far greater than any recorded elsewhere during the period of years studied. More important than the absolute death-rates recorded, owing to our imperfect and variable systems of registration, are the fluctuations to be noted in examining successive years of registration under the same system. While all of the States included in the table show lower rates at present than those recorded for the period of excessive mortality about 1881, and lower than the secondary crest of prevalence which fell in the years 1887-89, only two of them, Massachusetts and Michigan, show a fairly constant decrease during the entire period. The tendency appears to be upward during recent years in Indiana,

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New Jersey, New York and Rhode Island. In Connecticut the recorded mortality
nained nearly stationary for the past decade, with maxima in 1883 and 1889, but
i range than those observed in other States. In England the death-rate from
ieria is far less than in this country, but there has been a steady increase in
years.

distribution of diphtheria (including only deaths reported as such) and of croup
e studied by geographical divisions in Table 74 as returned for the year 1892.
are many differences as compared with the corresponding distribution for 1891,
which may be noted a generally increased percentage in the northern divisions.
pper Peninsular division forms an exception to this statement, the percentage of
i from diphtheria in this division being considerably below the average for the

iore satisfactory method of studying the geographical distribution is that
yed in the study of consumption, namely, taking the average death-rate for a
of years. In the following statement, the average number of deaths in each
for the five-year period 1888-92 is stated, and the corresponding death-rate per
) mean population (that of the census of 1890) is calculated. The results are
cally shown in the Map opposite this page, five groups of counties being dis-
ished, as follows: (1) Counties having a death-rate from diphtheria (including
over fifty per cent above the average for the State; (2) counties with death-rates
the average but less than fifty per cent above it; (3) counties with less than the
e death-rate, but less than fifty per cent below it; (4) counties having death-rates
fty per cent below the average; (5) counties, generally of very sparse population,
ch no deaths from diphtheria or croup were reported for the past five years. The
)r immediately following the name of the county in the list below is the average
)r of deaths returned for the five-year period, 1888-92; the second number, in
, represents the death-rate:

IS AND DEATH-RATES FROM DIPHTHERIA (INCLUDING CROUP) PER 100,000 POPULATION IN MICHIGAN, BY COUNTIES, 1888-92.

TE: Average number of deaths per annum, 1,367.6; *mean death-rate, 65.3.*)

*fifty per cent above the average:*—Alger, 1.8, *145.4;* Cheboygan, 14.6, *121.9;* son, Iron, Marquette and Menominee (taken together since Dickinson was formed he three others in 1891), 95.4, *122.9;* Keweenaw, 3.2, *110.5;* Muskegon, 51.6, *129.0;* w, 90.6, *110.2;* Wayne, 510.4, *198.5.*

*than fifty per cent above the average:*—Arenac, 4.8, *84.4;* Charlevoix, 6.6, *68.2;* 11.8, *77.0;* Gogebic, 10.0, *76.0;* Jackson, 34.0, *75.5;* Kent, 87.6, *79.7;* Mason, 12.4, Monroe, 18.6, *57.5;* Montmorency, 1.0, *67.2;* Ontonagon, 2.8, *74.5;* Otsego, 3.8, *88.9.*

*than fifty per cent below the average:*—Allegan, 18 2, *46.7;* Alpena, 5.8, *37.3;* 3.8, *51.1;* Berrien, 15.2, *36.8;* Chippewa, 4.4, *36.7;* Houghton, 19.2, *54.2;* Iosco, 8.2, apeer, 14.0, *47.9;* Macomb, 13.0, *40.8;* Manistee, 11.4, *47.1;* Midland, 4.2, *39.4;* go, 8.6, *42.0;* Ogemaw, 2.6, *46.6;* Ottawa, 22.4, *63.4;* Schoolcraft, 2.8, *48.1;* St. 7.6, *53.0;* Washtenaw, 15.4, *36.5.*

*fifty per cent below the average:*—Alcona, 1.2, *22.2;* Antrim, 1.8, *17.3;* Baraga, *2;* Barry, 3.6, *15.2;* Benzie, 0.4, *7.6;* Branch, 4.8, *17.9;* Calhoun, 6.8, *15.6;* Cass, *2;* Clare, 1.2, *15.8;* Clinton, 8.0, *30.1;* Eaton, 5.0, *15.6;* Emmet, 1.6, *18.3;* Genesee, *4;* Gladwin, 0.2, *4.8;* Grand Traverse, 2.4, *18.0;* Gratiot, 5.2, *18.2;* Hillsdale, 3.6, Huron, 7.6, *26.6;* Ingham, 9.6, *25.5;* Ionia, 4.8, *14.6;* Isabella, 4.8, *25.5;* Kalamazoo, *0;* Kalkaska, 0.2, *3.9;* Lake, 1.2, *18.4;* Lenawee, 7.4, *15.3;* Livingston, 6.2, *29.8;* 0.6, *24.4;* Mackinac, 2.0, *25.5;* Mecosta, 4.0, *20.3;* Missaukee, 0.6, *11.9;* Montcalm, *8;* Oakland, 13.0, *31.5;* Oceana, 4.6, *29.3;* Osceola, 2.0, *13.7;* Presque Isle, 0.6, Roscommon, 0.2, *9.8;* Sanilac, 10.8, *33.1;* Shiawassee, 7.2, *23.3;* St. Joseph, 2.4, *9.5;* a, 10.2, *31.4;* Van Buren, 5.0, *16.4;* Wexford, 2.4, *21.3.*

...y; not engraved)
... map representing
...nties from which an
... Such differences may
... to the identity of croup

... small importance as a cause
... deaths annually reported
... This decrease is exclusive o
... under this title, but are no

... mber of deaths has been reporte
... would indicate, with the increase
... There are probably some deaths i
... itis and septicæmia, which properl
... the returns.

... ber of deaths was reported from this disea
... ourse of scarlet fever in Michigan has bee
... rtality since 1870 with the exception of th
... marked by slightly increased death-rates. The
... which represents the following figures:

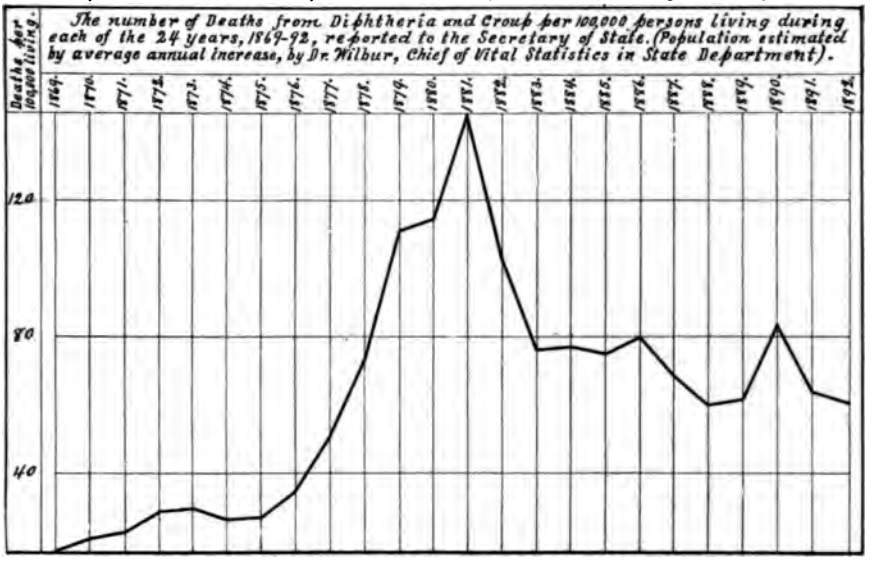
... *in Michigan per 100,000 population, 1869-92.*

| | 1893. | 1887. | 1886. | 1885. | 1884. | 1883. | 1882. | 18... |
|---|---|---|---|---|---|---|---|---|
| ... | 11.7 | 16.1 | 16.3 | 16.7 | 13.1 | 17.9 | 37.9 | 34.3 |
| | 1877. | 1876. | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. |
| ... | 28.9 | 27.4 | 30.0 | 32.2 | 43.9 | 44.3 | 56.6 | 72.0 |

... fever, 626; (18) **Typho-malarial fever, 23;** (19) **Typhus fever, 6**
... been little or no typhus fever in Michigan in recent years, the fe
... being probably intended for typhoid fever. The term *typhus abdon*
... German-speaking physician would perhaps give in a death-certificate
... fever, would readily become *typhus* when recorded by a careless enu
... applied by a clerk ignorant of the significance of the qualifying word "abdo
... Deaths from "typho-malarial fever" are at present considered for practi
... purposes as equivalent to typhoid fever. In the tables the three terms
... for the purpose of comparison with former reports, but it would be pref
... employ the term enteric fever, especially if the returns were based upon de
... ates from physicians, and in consequence the correctness of the statements
... less doubt than at present.

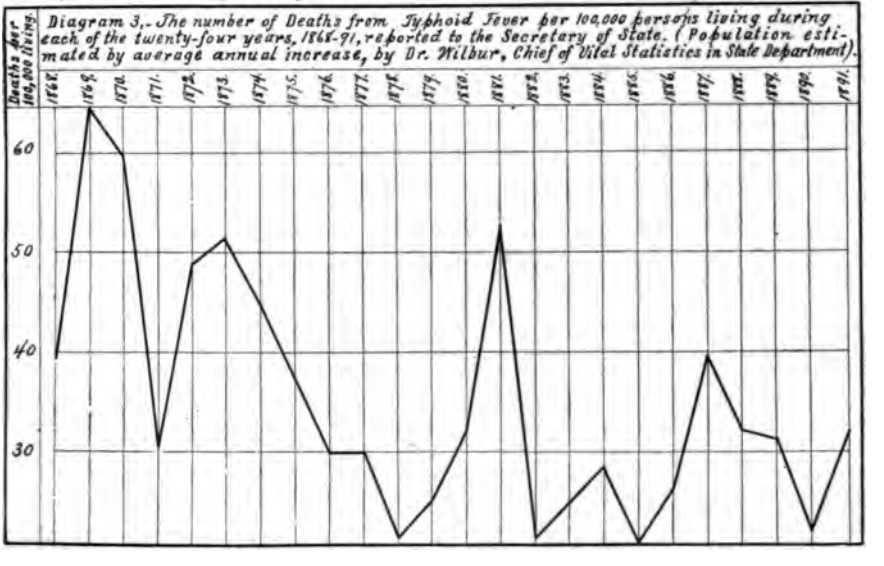
## (DIAGRAM V.)

*Reported Deaths from Diphtheria and Croup in Michigan, 24 Years, 1869-92.*




## (DIAGRAM VI.)

*Reported deaths from Typhoid fever in Michigan, 24 Years, 1868-91.*



In the following table the death-rates from typhoid fever (returned as such) may be compared for the past twenty-four years of registration. Diagram VI closely represents these figures, any differences being due to the fact that the diagram is based upon the statements made in the "Nosological Arrangements" of previous reports, in which a few additional deaths from ill-defined forms of fever were generally included under the head of typhoid fever.

*Death-rates from typhoid fever (returned as such) in Michigan per 100,000 population, 1869–92.*

| Years. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | 1886. | 1885. | 1884. | 1883. | 1882. | 1881. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Death-rates.. | 28.6 | 32.0 | 22.2 | 31.1 | 31.9 | 39.3 | 26.1 | 20.7 | 28.2 | 24.7 | 26.8 | 52.5 |
| Years. | 1880. | 1879. | 1878. | 1877. | 1876. | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. | 1869. |
| Death-rates.. | 31.3 | 24.9 | 21.3 | 29.7 | 29.3 | 30.7 | 44.8 | 51.3 | 48.7 | 29.0 | 48.5 | 38.2 |

The comparative study of the mortality from typhoid fever, as presented in Table 80, is of interest, for it shows that after making due allowance for different degrees of accuracy in registration the death-rates from this disease are nearly twice as great in the Western States as in the Eastern States. There appears to be some tendency toward a diminished mortality from this cause in the former group, while in the latter the death-rates show generally a slight increase during the years studied. The contrast is very marked from the changes that have occurred in the English rates, which have diminished nearly 50 per cent in the last decade.

(20) **Glanders, 1.** Only four deaths have been recorded from this disease in Michigan since the establishment of registration. One of these occurred in the present year and was reported from Antrim county.

(21) **Measles, 72.** The measles curve is subject to great fluctuations, as may be seen in Diagram VIII, and the year 1892 was a year of greatly diminished prevalence. The absolute number of deaths returned is less than that for any year since 1885, and is only about one-third of the numbers recorded for 1890 and 1891. The death-rates from this disease based on estimated population are as follows:

*Death-rates from measles in Michigan per 100,000 population, 1869-92.*

| Years. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | 1886. | 1885. | 1884. | 1883. | 1882. | 1881. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Death-rates.. | 3.3 | 10.5 | 10.9 | 5.1 | 20.6 | 14.6 | 6.8 | 2.0 | 7.9 | 14.5 | 8.7 | 15.2 |
| Years. | 1880. | 1879. | 1878. | 1877. | 1876. | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. | 1869. |
| Death-rates.. | 7.6 | 10.5 | 1.0 | 4.1 | 8.1 | 9.5 | 3.4 | 18.6 | 14.1 | 5.5 | 4.7 | 12.9 |

(22) **German measles, 2.** German measles or rötheln is of little importance as a cause of death. It is included in the list of dangerous communicable diseases chiefly from the liability of scarlet fever to be mistaken for it, with which disease it has a closer relationship than with measles proper. No deaths appear to have been recorded from this cause prior to 1892, although it is not unlikely that an occasional one has been included among deaths from measles.

(23) **Small-pox, 1.** Only one death was registered from small-pox in 1892,—from Livingston county,—and the total number of deaths for the past ten years amounts only to 31. This disease, once so formidable in its effects on the death-rate, would seem to have been practically annihilated and to have become of merely historical interest, were not the possibility always present of an epidemic being lighted up by neglect of vaccination and proper sanitary measures. Such, indeed, was the case two years later in Detroit—but it is not allowable under the present system of registration to anticipate the regular course of the returns so far as to refer to any matters of timely interest. The facts in regard to the epidemic of small-pox in this State in 1894 will be duly collected (such as are not forgotten) in the spring of 1895, and the compiled results be discussed in the report published in 1896, when all popular interest in them has vanished. The following table presents the death-rates for preceding years:

*Death-rates from small-pox in Michigan per 100,000 population, 1869-92.*

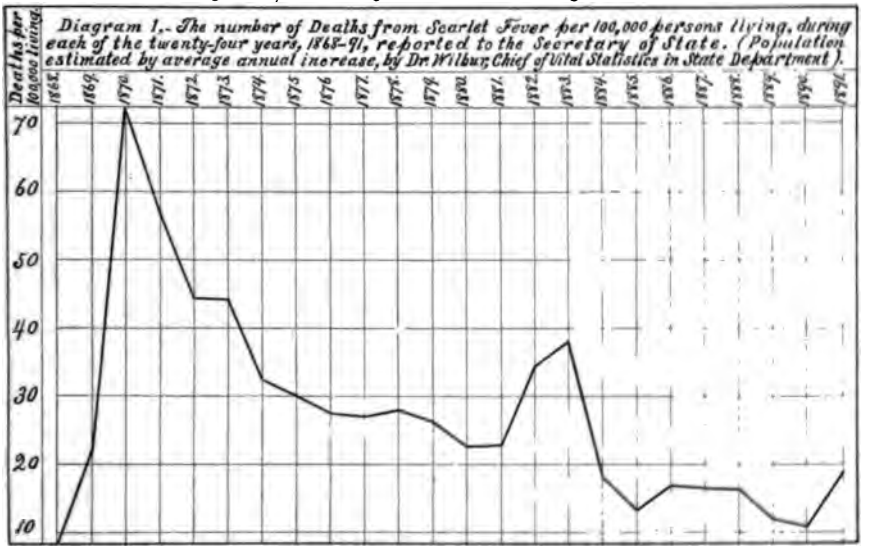
| Years. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | 1886. | 1885. | 1884. | 1883. | 1882. | 1881. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Death-rates.. | 0.1 | 0.1 | 0.3 | 0.1 | 0.2 | ..... | 0.3 | 0.2 | 0.2 | 0.3 | 5.8 | 4.9 |
| Years. | 1880. | 1879. | 1878. | 1877. | 1876 | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. | 1869. |
| Death-rates.. | 0.2 | 0.4 | 0.4 | 6.8 | 5.2 | 1.8 | 1.3 | 7.0 | 23.7 | 6.0 | 0.8 | 3.7 |

(24) **Chicken-pox, 4.** This is the only disease in the list printed in black-faced type and included in the total number of dangerous communicable diseases, that has not been officially declared so by the State Board of Health. Its chief danger is its liability to be mistaken for small-pox, especially at the commencement of an epidemic of the latter when physicians are not upon the alert for the more important disease. In these reports prior to 1891 small-pox and chicken-pox were included under the same head, small-pox, which fact should be remembered in comparing the reports of previous years.

(25) **Whooping-cough, 147.** Measured by the aggregate mortality from each disease since the beginning of registration, whooping-cough and measles are of almost precisely equal importance as causes of death in Michigan. Whooping-cough caused 3,474 deaths during the twenty-four years, 1869–92, according to the returns, while measles caused 3,667. The curve of whooping-cough is far more uniform from year to year than that of measles, which is subject to wide oscillations. For 1892 there were about twice as many deaths from whooping-cough as from measles, but the death-rate from measles for this year, as already mentioned, was unusually low. The age distribution of deaths from whooping-cough is peculiar from the very large proportion of decedents (97.3 per cent in 1892) below five years of age. For measles and scarlet fever

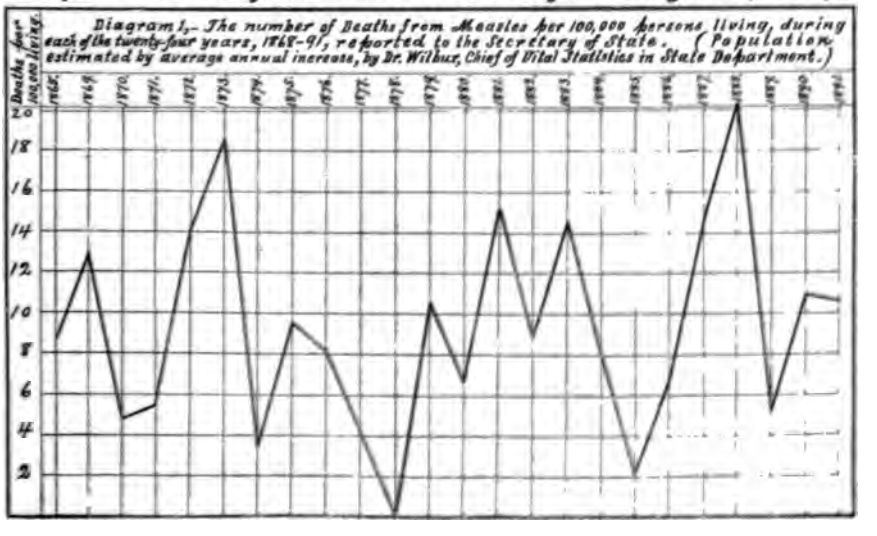
(DIAGRAM VII.)

## *Reported Deaths from Scarlet fever in Michigan, 24 Years, 1868-91.*




(DIAGRAM VIII.)

## *Reported Deaths from Measles in Michigan, 24 Years, 1868-91.*



the percentages of deaths under five years of age were 80.6 and 64.9, respectively. Following is a table giving the death-rates from whooping-cough for the preceding years of registration:

*Death-rates from whooping-cough in Michigan per 100,000 population, 1869-92.*

| Years. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | 1886. | 1885. | 1884. | 1883. | 1882. | 1881. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Death-rates.. | 6.7 | 7.4 | 8.6 | 6.8 | 8.7 | 5.6 | 9.7 | 7.4 | 8.8 | 5.2 | 5.0 | 8.4 |
| Years. | 1880. | 1879. | 1878. | 1877. | 1876. | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. | 1869. |
| Death-rates.. | 16.1 | 10.2 | 8.5 | 8.7 | 12.4 | 7.2 | 11.2 | 15.6 | 15.1 | 5.5 | 10.1 | 13.9 |

(26) *Bladder diseases, 50:* (27) Calculus, 11; (28) Cystitis, 22; (29) Bladder disease, etc., 17. These are mostly diseases of elderly persons. Six cases of enlarged prostate are included in "bladder disease, etc.," and also two of rupture of bladder. Calculus and cystitis were separately stated in the old classification employed in these reports, but all other diseases of the bladder were placed under "kidney disease, etc."

(30) *Bowel diseases, 1,631:* (31) Inflammation of bowels, 334; (32) Diarrhea, 277; (33) Cholera infantum, 606; (34) Dysentery, 74; (35) Peritonitis, 89; (36) Bowel disease, etc., 251. Diarrhea includes 25 cases specified as chronic, and dysentery 1 case so returned. Bowel disease, etc., comprises: Appendicitis, 5; abscess, 2; congestion, 9; constipation, 2; disease, 46; hemorrhage, 8; obstruction, 26; ulceration, 9; "cholera," 34; cholera morbus, 43; colic, 17; dropsy, 5; fistula, 1; hernia, 35; piles, 1; worms, 8.

Some of the cases of inflammation of the bowels, and many of those included in "bowel disease, etc," are diarrheal in character. The nature of the returns do not permit of any very exact distinctions being made between those included under different titles. Thus, of the 277 cases of death from diarrhea, no less than 182 were originally specified as "summer complaint," a recognized synonym for cholera infantum, while, on the contrary, many cases of ordinary diarrhea in infants were returned as "cholera infantum." These diseases are best studied in the aggregate, and according to their age-incidence. For this purpose it is very important that distinction of ages below five years should be made. This has not yet been done in these reports, and hence we can only approach the subject by observing that 1,118 of the 1,631 total deaths from bowel diseases occurred in children under five years of age. This is equivalent to 68.5 per cent of the total, and does not include deaths of children from tubercular bowel diseases (specified as such) given above.

According to Holt (quoted by Osler, *Practice of Medicine*, p. 393), cholera infantum is by no means as common as the ordinary dyspeptic diarrhea of children, and occurs in only two or three per cent of the cases of summer diarrhea. The proportion among fatal cases would, of course, be much higher, but it is doubtful if it rises to the percentage indicated by our returns. It is doubtless true, as Russell remarked, "that the certificates in these cases are entirely useless for any separate statistical application; for the numerous expressions, *summer complaint, cholera infantum, diarrhea, enteritis, entero-colitis, gastro-enteritis, intestinal catarrh, gastro-intestinal catarrh* and *muco-enteritis* are employed indiscriminately. . . . According to our returns cholera

infantum is a disease of all seasons, of duration from a few hours to many months, and of occurrence in children up to ten years of age." *

(37) *Brain diseases, 1,534:* (38) Apoplexy, 219; (39) Congestion of brain, 68; (40) Inflammation of brain, 292; (41) Epilepsy, 62; (42) Meningitis, 148; (43) Paralysis, 571; (44) Brain disease, etc., 174. Meningitis includes spinal fever, 32; meningitis, 42; cerebral meningitis, 4; cerebro-spinal meningitis, 7; spinal meningitis, 63. Paralysis includes, besides 542 deaths returned simply as such, 2 from locomotor ataxia; 2 from progressive muscular atrophy; 15 from "creeping paralysis," some of which were probably paralysis agitans; and 10 from "general paralysis." Of the latter, 9 were from Kalamazoo, and were probably cases of general paralysis of the insane. In brain disease, etc., are included: Abscess, 11; disease, 53; embolism, 1; paralysis, 15; softening, 33; chorea, 8; insanity, 53. Congestion of brain is stated separately in this report and in the one for the preceding year. Prior to 1891 this cause of death was included in "brain disease," which fact should be borne in mind in making comparisons with previous years.

(45) Cancer, 558; (46) Tumor, 139. Deaths returned from "tumor" are stated in connection with those from cancer for the reason that the former term is, in many cases, merely a common expression for the latter, and the deaths returned from cancer should, therefore, be somewhat increased to give the true number that occurred. This is, of course, apart from the correction that should be added to all causes of death on account of imperfect returns.

In Table 75, on the opposite page, may be seen the distribution of deaths from cancers and tumors, by sex and according to the parts of the body affected, for the year 1892, and also, for cancers only, for the period of twenty years, 1872-91. Of the whole number of deaths reported from cancer in the twenty years, 42.7 per cent were males and 57.3 per cent females. Excluding from the total number of deaths of males all cases in which the organ affected was unspecified, we have 1,557 cases, of which 996, or 64.0 per cent, were deaths from cancer of the stomach. Among females, the ratio of deaths from cancer of the stomach was less, being 40.6 per cent; 380 deaths or 22.4 per cent were from cancer of the breast, and 263 deaths or 15.5 per cent were cancers of the uterus.

In Table 71 may be seen the total number of deaths from cancer returned for each year of registration from 1869 to 1892. As the population of the State has been increasing during this time, it is necessary to compare the deaths returned from this cause to the enumerated or estimated population for each year in order to ascertain whether the death-rate from this cause is really increasing. The following table shows that this is apparently the case:

*Death-rates from cancer in Michigan per 100,000 population, 1869-92.*

| Years. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | 1886. | 1885. | 1884. | 1883. | 1882. | 1881. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Death-rates.. | 25.5 | 25.0 | 25.5 | 24.0 | 24.0 | 23.2 | 20.5 | 21.6 | 19.9 | 21.6 | 17.4 | 18.4 |
| Years. | 1880. | 1879. | 1878. | 1877. | 1876. | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. | 1869. |
| Death-rates.. | 17.4 | 17.1 | 17.4 | 17.7 | 16.5 | 14.4 | 13.8 | 13.0 | 10.4 | 8.5 | 10.1 | 9.9 |

* Transactions of the New York Academy of Medicine, 1874, p. 119.

**Table 75.**—*Deaths returned from* **cancer** *in Michigan for the year 1892, and for the twenty years, 1872-91, inclusive, specifying the part of the body affected.*

| Cancer of— | Year 1892. | | | Twenty years, 1872-91. | | |
|---|---|---|---|---|---|---|
| | Total. | Males. | Females. | Total. | Males. | Females. |
| All organs | 558 | 246 | 312 | 6,664 | 2,844 | 3,820 |
| Arm | | | | 6 | 3 | 3 |
| Back | | | | 1 | 1 | |
| Bladder | | | | 18 | 15 | 3 |
| Bone | 2 | 2 | | 1 | 1 | |
| Bowels | 15 | 8 | 7 | 125 | 48 | 77 |
| Brain | 2 | 2 | | 2 | 1 | 1 |
| Breast | 21 | | 21 | 404 | 24 | 380 |
| Ear | | | | 3 | 2 | 1 |
| Eye | 1 | | 1 | 16 | 8 | 8 |
| Face | 13 | 10 | 3 | 195 | 144 | 51 |
| Foot | | | | 4 | 4 | |
| Gall bladder | | | | 1 | | 1 |
| Groin | | | | 4 | 3 | 1 |
| Hand | | | | 5 | 4 | 1 |
| Head | 1 | 1 | | 33 | 19 | 14 |
| Heart | | | | 6 | 2 | 4 |
| Hip | 1 | | 1 | 1 | 1 | |
| Jaw | 3 | 3 | | 1 | 1 | |
| Kidney | 1 | | 1 | 7 | 6 | 1 |
| Leg | | | | 19 | 13 | 6 |
| Lip | | | | 3 | 3 | |
| Liver | 21 | 6 | 15 | 149 | 82 | 67 |
| Lungs | 1 | | 1 | 18 | 8 | 10 |
| Mouth | 3 | 3 | | 83 | 55 | 28 |
| Neck | 1 | | 1 | 28 | 20 | 8 |
| Nose | 1 | 1 | | 2 | 2 | |
| Omentum | 1 | | 1 | | | |
| Ovaries | 1 | | 1 | | | |
| Œsophagus | | | | 3 | 1 | 2 |
| Pancreas | 1 | 1 | | 3 | 2 | 1 |
| Rectum | 1 | 1 | | 28 | 15 | 13 |
| Shoulder | | | | 2 | 2 | |
| Side | | | | 13 | 2 | 11 |
| Spleen | 1 | | 1 | | | |
| Spine | | | | 5 | 2 | 3 |
| Stomach | 140 | 81 | 59 | 1,684 | 996 | 688 |
| Throat | 2 | 2 | | 92 | 53 | 39 |
| Testicles | | | | 3 | 3 | |
| Tongue | 2 | 1 | 1 | 21 | 11 | 10 |
| Tonsils | 1 | | 1 | | | |
| Unspecified part | 302 | 124 | 178 | 3,411 | 1,287 | 2,124 |
| Urethra | | | | 1 | | 1 |
| Uterus | 19 | | 19 | 283 | | 283 |

NOTE.—*Deaths returned from* "tumors" *in Michigan, 1892.*—There were 139 deaths, 36 males and 103 females, thus returned, many of which were probably deaths from cancer. Their distribution, by sex and organs affected, was as follows:—Bowels, 3 males, 5 females; brain, 6 males, 5 females; head, 1 female; liver, 1 female; ovarian, 14 females; side, 1 male, 1 female; stomach, 5 males, 5 females; eye, 1 female; groin, 1 male; kidney, 1 female; spine, 1 female; thigh, 1 female; throat, 1 male, 3 females; unspecified, 19 males, 58 females; uterus, 6 females.

In the classification of diseases according to the parts of the body affected, a principle which is used as a minor basis of arrangement in the present classification as well as in the one formerly employed in these reports, it should be remembered that deaths from cancer are not so distributed. Were these deaths properly included under the organs affected, the total number of deaths from diseases of the stomach would be nearly doubled, while the number of deaths from diseases of the liver would be materially increased. The proportion of deaths from cancer referable to other organs would not materially change the statements given. These remarks are also applicable to the tables stating the number and percentage of deaths from each of seven groups of causes given in previous reports, in which tables the deaths were arranged according to this plan.

(47) Childbirth, 244. This number includes 12 deaths specified as caused by abortion or miscarriage; 5 from puerperal convulsions; 1, ectopic gestation; 1, placenta prævia; 2, post partum hemorrhage; 1, puerperal mania; 1, phlegmasia dolens. There are also 42 deaths from puerperal fever not included here but classed under dangerous communicable diseases. The deaths returned from childbirth have remained very uniform for the years contained in Table 71, showing, as there has been a large increase in population in that time, that the death-rate has constantly diminished.

(48) Convulsions, 548. This is an indefinite term, merely expressive of the symptoms in deaths from certain causes. When specified as epileptic, puerperal or uræmic, they are classified elsewhere. Over nine-tenths (91.5 per cent) of the total number were deaths of children under five years of age. According to Dr. Farr's classification these deaths were placed among brain diseases, but it would seem equally reasonable to ascribe many of them to bowel disorders of infants. We should expect in this case, however, to find an excessive number reported for the months of July, August and September, which is not the case.

(49) Diabetes, 69. Deaths thus returned have usually been considered to be from diabetes mellitus, although rarely so specified. The peculiar age-distribution of decedents as seen in Table 69 may throw some doubt upon this opinion. Diabetes mellitus is a disease of adult life, and with the exception of the deaths recorded for the age-periods from 5 to 20, but few deaths occur until the age of 50 and upwards is reached. The deaths in children and young adults from this cause may, possibly, be really from other affections associated with polyuria.

(50) Dropsy, 389. This is another indefinite return of cause of death which would be practically eliminated from registration reports under an efficient system of registration. In all cases of "dropsy," the disease responsible for that condition should be stated, whether cardiac, renal or other. Were the statements of causes of death based upon physicians' certificates, there would be hope for improvement in this respect, but under the present registration law these indefinite returns will continue to constitute a large percentage of total deaths.

(51) Fever, 129. This includes bilious fever, 9; catarrhal fever, 8; gastric fever, 8; nervous fever, 1; fever, unspecified, 103. The deaths returned simply as "fever" may in some instances be enteric or other definite forms of fever. The absence of specification prevents proper classification. The other forms included are all of a somewhat indefinite or ambiguous character.

(52) Malarial fever, 146. Besides 115 cases so specified, there were included 16 deaths from "congestive chills," 10 from intermittent and 5 from remittent fever. Malarial diseases have steadily diminished in Michigan for the period of time covered by Table 71. *The deaths reported* annually from this cause at present are about the same

numerically as were returned twenty years ago when the State had only about one-half of its present population.

(53) *Heart diseases, 1,329:* (54) Pericarditis, 97; (55) Heart disease, etc., 864; (56) "Heart failure," 368. Pericarditis includes only two cases returned as such, the remainder being returned as hydropericardium, or "dropsy of heart." Heart disease, etc., includes, besides 798 deaths returned simply as "heart disease," the following more definitely specified forms: Fatty degeneration, 6; hypertrophy, 8; neuralgia (angina pectoris), 21; endocarditis, 2; paralysis, 20; rupture, 1; valvular disease, 8. It does not include 368 cases of "heart failure," which were separately stated this year as in 1891. For preceding years, as shown in Table 71, these deaths were included in heart disease. They are generally equivalent to deaths with cause unspecified,—so returned either through ignorance or carelessness,—and probably imply no actual heart disease. For this reason the statistics of heart disease at present are not comparable with those of years antedating the common use of this pernicious term.

(57) Influenza, 907. This was the last year of the prevalence of epidemic influenza in this State, and the majority of the deaths reported from this cause occurred in the first two months of the year. Other diseases, notably consumption and lung diseases, showed unusually high death-rates for these months and were doubtless influenced by the presence of the epidemic. As usual, the brunt of the mortality from this cause was borne by the very young and by persons of advanced age. Table 71 is very interesting as showing the small number of deaths reported from influenza for the years prior to 1890, and the great mortality from this cause in 1890, 1891 and 1892. The total numbers for these years and their distribution by months, as returned, are given in the following table:

*Deaths in Michigan from influenza ("la grippe"), by months, according to the returns for the years 1889-92.*

| Years. | Total for year. | Months. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| 1889 | 176 | 30 | 28 | 17 | 11 | 6 | 7 | 2 | 2 | 4 | 8 | 19 | 41 | 1 |
| 1890 | 1,084 | 174 | 210 | 154 | 133 | 79 | 60 | 44 | 53 | 36 | 46 | 37 | 56 | 2 |
| 1891 | 1,076 | 110 | 83 | 96 | 249 | 110 | 62 | 48 | 31 | 48 | 37 | 38 | 160 | 4 |
| 1892 | 907 | 351 | 209 | 99 | 58 | 35 | 24 | 18 | 19 | 17 | 19 | 30 | 28 | .... |

(58) *Kidney diseases, 442:* (59) Inflammation of kidneys, 332; (60) Kidney disease, etc., 110. Inflammation of kidneys includes 319 cases specified as Bright's disease, and 13 as such. Under kidney disease, etc., are 96 deaths so returned; 2 from abscess, 1 hemorrhage, and 11 as uræmia. Kidney diseases appear to be increasing in this State during the period of years covered by Table 71. This may be, as has been observed elsewhere, on account of better diagnosis, and also, in part, from changes in fashion in medical nomenclature. Many deaths that would have been returned simply as "dropsy" in former years, would at present be ascribed to some form of Bright's disease.

(61) Liver disease, etc., 121. This includes, besides 51 cases returned as such, 1 from "dropsy of liver;" 3 from "disease of gall;" 6 from gall-stone; 18 from jaundice; 11 from abscess; 3 from cirrhosis; 7 from congestion; 14 from enlargement; 7 from inflam-

mation. The returns under this head do not suggest much accuracy of statement, and are probably little to be relied upon.

(62) *Lung diseases (not including consumption), 1,765:* (63) Asthma, 65; (64) Bronchitis, 184; (65) Pleurisy, 30; (66) Pneumonia, 1,298; (67) Congestion of lungs, 87; (68) Lung disease, etc., 101. Among the 184 deaths from bronchitis are 7 returned as chronic bronchitis. Pneumonia includes 3 from pleuro-pneumonia; 42 from typhoid pneumonia; and 7 from capillary bronchitis. Under "lung disease, etc.," are 56 returned as lung disease; 31 from hemorrhage of lungs (both of these terms imply tuberculosis in the great majority of cases); 9 from abscess; 4 from œdema; 1 from collapse. Congestion of lungs is stated separately for 1891 and 1892 because, in the opinion of the compiler, it is merely a local expression for pneumonia in the majority of cases. In previous years deaths so returned were included in "lung disease," which term, likewise, is a common localism for consumption.

The most important of the causes of death included in this group is pneumonia. As seen in Table 71 a much higher mortality has been registered from this disease during the past five years than for the immediately preceding years of registration. This increase began in 1888, before the epidemic of influenza could be regarded as a possible factor in increasing the number reported from this cause. While many deaths from pneumonia may have been induced by a preliminary attack of influenza, and so should be referred, for the ultimate cause of death to that disease, the tendency is so strong in the Michigan registration returns to refer deaths to "la grippe," with no statement of the immediate cause of death, that it would seem more likely that pneumonia is understated than overstated for these years. Following is a table showing the number of deaths from pneumonia in each month as returned for the past ten years; the correspondences between the deaths from this cause and from influenza, as given above, may be remarked:

*Deaths returned from pneumonia in Michigan, by months, for the years 1883–92, with average for the ten-year period.*

| Years. | Totals. | Months of death, 1883-92. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. |
| 1883 | 827 | 80 | 73 | 110 | 111 | 96 | 45 | 35 | 45 | 36 | 48 | 63 | 84 | 1 |
| 1884 | 840 | 77 | 114 | 114 | 90 | 75 | 41 | 38 | 45 | 38 | 32 | 76 | 96 | 4 |
| 1885 | 804 | 66 | 112 | 136 | 96 | 70 | 38 | 27 | 29 | 47 | 48 | 47 | 87 | 1 |
| 1886 | 857 | 60 | 72 | 129 | 108 | 70 | 51 | 34 | 33 | 37 | 53 | 81 | 128 | 1 |
| 1887 | 970 | 93 | 125 | 135 | 126 | 81 | 46 | 32 | 40 | 55 | 73 | 74 | 89 | 1 |
| 1888 | 1,313 | 112 | 164 | 200 | 159 | 139 | 80 | 43 | 40 | 79 | 72 | 82 | 142 | 1 |
| 1889 | 1,132 | 134 | 115 | 153 | 153 | 84 | 55 | 52 | 52 | 51 | 85 | 83 | 113 | 2 |
| 1890 * | 1,224 | 185 | 124 | 135 | 189 | 90 | 53 | 57 | 48 | 53 | 68 | 116 | 152 | 4 |
| 1891 | 1,248 | 122 | 108 | 132 | 197 | 116 | 64 | 33 | 55 | 44 | 64 | 106 | 204 | 3 |
| 1892 | 1,298 | 285 | 168 | 122 | 133 | 91 | 66 | 60 | 43 | 50 | 71 | 91 | 116 | 2 |
| Average for 10 years, 1883-92 | 1,051 | 121 | 118 | 137 | 131 | 91 | 54 | 41 | 43 | 49 | 61 | 82 | 121 | 2 |

* *By recount of returns, the figures given in the report for this year being incorrect.*

The following table, which is graphically represented by Diagram IV, shows the death-rates from pneumonia for each year of registration from 1869 to 1892, the rates being based upon the estimated populations for each year:

*Death-rates from pneumonia in Michigan per 100,000 population, 1869-92.*

| Years. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | 1886. | 1885. | 1884. | 1883. | 1882. | 1881. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Death-rates.. | 59.4 | 58.3 | 58.5 | 55.8 | 65.6 | 49.6 | 44.8 | 43.1 | 46.2 | 46.6 | 48.3 | 55.9 |
| Years. | 1880. | 1879. | 1878. | 1877. | 1876. | 1875. | 1874. | 1873. | 1872. | 1871. | 1870. | 1869. |
| Death-rates.. | 56.2 | 49.9 | 35.7 | 37.2 | 47.7 | 60.0 | 68.6 | 60.1 | 55.0 | 39.2 | 34.2 | 39.9 |

(69) Rheumatism, 149. Included in this number are rheumatism of heart, 29; inflammatory rheumatism, 22; sciatica, 7, besides 91 deaths simply returned as such. While rheumatism is of great importance as a cause of sickness in Michigan, it is of less interest as a cause of mortality.

(70) Septicæmia, 167. This represents an indefinite form of return, the majority of the cases being reported as "blood poisoning." Whether after wounds or injuries or after parturition is not specified except in a few cases which have been included under the proper heads. In the early reports deaths from septicæmia were classed with deaths from erysipelas under the latter title, which fact should be borne in mind in consulting them.

(71) Spine disease, etc., 74. Another indefinite return, it being uncertain whether disease of the spinal cord or of the vertebræ is intended.

(72) *Stomach diseases, 178:* (73) Inflammation of stomach, 53; (74) Stomach disease, etc., 125. The latter term includes, besides 57 deaths from "stomach disease," 14 from dyspepsia; 19 from indigestion; 2 from stricture of œsophagus; 4 from abscess; 4 from congestion; 2 from "consumption;" 3 from hæmetemesis; 1 from neuralgia, and 19 from ulcer.

(75) Syphilis, 11. Deaths from this disease are probably not fully reported in Michigan. This has been the experience of countries where the registration of causes of death is far more precise than in this State, and it is not likely that our statistics, collected as they are from the friends and relatives of decedents, would show even the approximate number of deaths from this cause. It would seem certain, however, that many deaths of children in cities and many cases of still-births are the results of syphilitic infection. Thus the 109 deaths from "marasmus," placed in accordance with former custom in these reports under tubercular diseases, may have been in part syphilitic, or, indeed, may have been neither tubercular nor syphilitic.

(76) Unclassified, 1,949. Under this head may be found the deaths from diseases of an indefinite character or of small importance numerically. They are as follows: Abscess (part unspecified), 73; Addison's disease, 1; anæmia, 7; aneurism, 1; disease of arteries, 2; disease of blood, 2; rupture of blood-vessel, 15; disease of bone, 4; canker, 13; carbuncle, 3; catarrh, 9; cold, 35; congestion, 15; cough, 1; cyanosis, 1; debility, 223; nervous debility, 45; eczema, 9; gangrene, 20; hemorrhage, 48; Hodgkin's disease, 1; inanition, 39; infantile, 12; inflammation, 52; intemperance, 34; laryngitis, 6; leucocythæmia, 1; malformation, 6; mouth disease, 10; mumps, 4; disease of nerves, 1; neu-

ralgia, 8; old age, 1,079; ovarian disease, 7; puberty, 1; rachitis, 1; salpingitis, 4; seasickness, 2; spleen disease, 5; stricture, 6; stricture of urethra, 1; teething, 69; tetanus, 7; throat disease, 16; inflammation of throat, 4; paralysis of throat, 1; thrush, 9; trismus neonatorum, 2; tonsilitis, 20; turn of life, 4; disease of uterus, 7; inflammation of uterus, 3.

The numbers of deaths not classified in Table 71 bear about the same proportion to total deaths except for the six years, 1884–89, inclusive. The reason for their increase in these years is due to an eccentricity in methods of compilation explained in the last report (page 190): deaths of old persons and of infants returned in these years with the causes unspecified were arbitrarily compiled as "old age" and "infantile," thus increasing the number of deaths in Developmental Diseases, and showing an *apparent* improvement in accuracy of registration. Such improvement was entirely illusory, as comparison was made with previous years in which deaths from unspecified causes were compiled as "unknown." It is impossible to determine the exact number of deaths thus treated, but if the proper deductions could be made from "old age" and "infantile" for those years, and such deaths could be also removed from specified diseases, in which they do not properly belong, it is probable that the relations of these groups would correspond better to those obtaining in other years of registration.

## COMPARATIVE MORTALITY.

Vital Statistics is essentially a comparative science, and its results to be of the greatest value must represent a wide experience. It is not enough for any State, or even country, to simply collect, tabulate and study its own special statistics. The full meaning of vital data cannot be known until comparisons are made with similar data collected from other States and countries, whereby their relative values are made manifest. It is a great object with vital statisticians at the present day to improve the methods of collection of data and to introduce uniform methods of compilation and expression of results in order that such comparisons may be correctly and readily made. Such, indeed, was one of the principal objects sought for in the passage of the present Michigan registration law (disappointing as have been its results in practice), and one of the greatest advantages that we may hope to derive from the substitution of a more efficient registration act will be the certainty with which comparative statements in regard to the public health of Michigan and other States can be made.

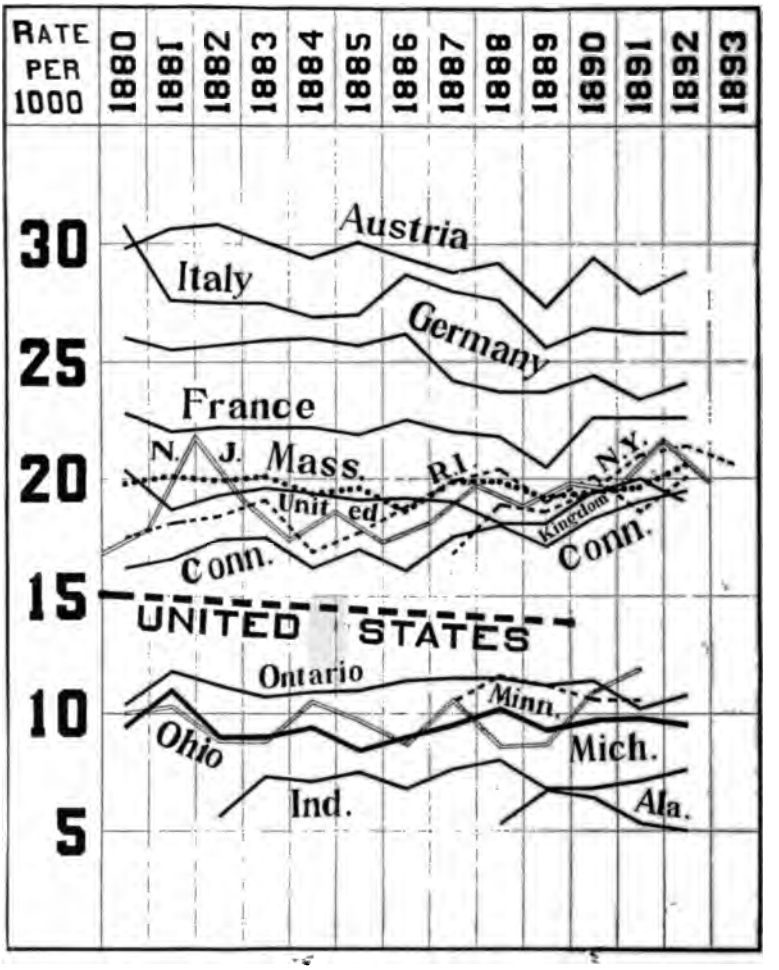
The following tables present some comparative death-rates that are worthy of consideration despite the admitted imperfection of the numbers given for Michigan and certain other States. Diagram IX graphically represents the figures of Table 76, and in explanation thereof the compiler may be permitted to quote the following remarks made originally in a paper before the State Medical Society:

"Imperfect as they are today, these State registration systems are the only means by which we can study the mortality of the United States as a whole as it changes during the years lying between the decennial censuses. The absolute rates, except in certain of the Eastern States, are so faulty as to be of little weight. But assuming that in any State the percentage of omissions is substantially constant from one year to another, the fluctuations in recorded mortality in States having even very imperfect systems of registration ought to correspond on a reduced scale with the variations observed in States having more accurate systems, and the importance of such study, I will again observe, is emphasized from the fact that it is all we have to show the changes in death-rates for the country as a whole.

"In the diagram that I have prepared to illustrate this point, the gross mortalities of

(DIAGRAM IX.)

# COMPARATIVE MORTALITY




ACCURACY OF REGISTRATION SHOULD ALWAYS BE CONSIDERED IN COMPARING DEATH-RATES.

several States and European countries are compared, and, I believe, the general coincidences of the wave-crests of mortality in the States of this country for the years 1881, 1887–88 and 1890, and in both Europe and America for the year 1890, are sufficiently marked. In the latter case, the sharp rise in Europe from epidemic influenza appears to be followed by a decline for the following year, whereas for this country the death-rates continue to rise during 1891 and 1892. In referring to this diagram, the caution 'Accuracy of registration should always be considered in comparing death-rates' must be borne in mind, and it should be further considered that the age and sex constitution of a population is a very important factor in its death-rate, and that corrections for these, even in the cases of the European death-rates, cannot at present be applied.

"A point of interest in the comparison of the changes in mortality rates of the several States represented with the change in the rate of the United States as a whole, as indicated by the registered deaths of the tenth and eleventh censuses, is that instead of showing a decrease from 1880 to 1890, a constant rate, or possibly a slight increase in mortality is indicated. In this case, the inferences derived from a study of the rates of the different States probably stand closer to the truth than the indications of the census enumeration, and fully corroborate the opinion of Dr. Billings, who states that 'as the result of several different calculations . . . I have concluded that the death-rate for the whole United States [in 1890] was about 18 per 1,000, or about the same that it was in 1880.' "

**Table 76.**—*Death-rates from* **all causes** *per 1,000 living population in Michigan, certain States and foreign countries for the years 1880-92, inclusive.**

| Countries and State. | 1880. | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | *29.8* | 30.6 | 30.8 | 30.1 | 29.4 | 30.1 | 29.4 | 28.9 | 29.2 | 27.3 | *29.4* | 27.9 | 28.8 | ..... |
| France | 22.8 | *22.0* | 22.2 | 22.2 | 22.2 | 21.9 | *22.5* | 22.0 | 21.8 | 20.5 | 22.6 | *22.6* | 22.6 | ..... |
| Germany | *26.0* | 25.5 | 25.7 | 25.9 | 26.0 | *25.7* | 26.2 | 24.2 | 23.7 | 23.7 | *24.4* | 23.4 | 24.1 | ..... |
| Italy | 30.8 | *27.6* | 27.5 | 27.5 | 26.9 | 27.0 | 28.7 | 28.0 | 27.6 | 25.6 | 26.4 | *26.2* | 26.2 | ..... |
| United Kingdom | 20.4 | *18.7* | 19.3 | 19.6 | 19.4 | 19.1 | 19.2 | 19.0 | 18.1 | 18.1 | 19.4 | *20.0* | 19.0 | ..... |
| United States | *15.1* | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | *14.0* | ..... | ..... | ..... |
| Alabama | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 5.3 | 6.7 | *6.4* | 5.3 | 5.0 | ..... |
| Connecticut | *16.2* | 16.8 | 17.4 | 17.5 | 16.2 | 17.0 | 16.1 | 17.5 | 18.0 | 17.1 | *18.3* | 19.0 | 19.5 | ..... |
| Indiana | ..... | ..... | 5.6 | 7.3 | 7.1 | 7.5 | 6.8 | 7.6 | 8.0 | 6.8 | *6.8* | 7.1 | 7.6 | ..... |
| Massachusetts | *19.8* | 20.1 | 19.9 | 20.1 | 19.4 | *19.6* | 18.6 | 19.9 | 19.9 | 19.2 | *19.4* | 19.6 | 20.6 | ..... |
| Michigan | *9.4* | 11.0 | 9.0 | 9.0 | *9.4* | 8.4 | 9.0 | 9.5 | 10.2 | 9.3 | *9.7* | 9.8 | 9.5 | ..... |
| Minnesota | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10.5 | 11.6 | 11.2 | *10.6* | 10.6 | ..... | ..... |
| Ohio | *10.0* | 10.3 | 8.8 | 8.8 | 10.5 | 9.7 | 8.7 | 10.6 | 8.6 | 8.7 | *10.9* | 11.9 | ..... | ..... |
| New Jersey | *16.8* | 17.9 | 21.8 | 19.1 | 17.4 | *18.6* | 17.3 | 18.1 | 19.7 | 18.8 | *19.8* | 19.5 | 21.6 | 19.8 |
| New York | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 16.8 | 18.9 | 18.6 | *19.5* | 21.0 | 21.4 | 20.6 |
| Rhode Island | *17.5* | 18.1 | 18.4 | 19.1 | 16.9 | *17.7* | 18.8 | 19.9 | 20.4 | 19.0 | *20.1* | 18.6 | 20.1 | ..... |
| Ontario | 10.4 | *11.8* | 11.2 | 10.7 | 10 9 | 11.0 | 11.4 | 11.5 | 11.5 | 11.2 | 11.4 | *10.2* | 10.8 | ..... |

* Death-rates for census years in *italics*. Still-births are not included in the rates except for Ontario and the United States censuses. The registration year of Indiana ends on September 30; that of Ohio on March 31, and of New Jersey o . June 3). In the diagram and table the statistics of Indiana and Ohio are placed in the calendar year to which they chiefly belong. The rate given for New Jersey in the table for 1893, for example, should be understood to represent the year 1892-93, and is so shown in the diagram. The United States censuses are for the years ending June 1, 1880 and 1890. In all other cases the registration years are calendar years.

EXPLANATION OF DIAGRAM IX.

In Table 76 may be found the death-rates represented for the various States and countries from 1880 to 1892. The authority for the European rates is the table of international statistics published in the latest English Registrar-General's Report (London, 1894). For Massachusetts, the death-rates are those given by the "Standard Table," issued by Dr. S. W. Abbott, Secretary of the State Board of Health. The rates for Rhode Island are those stated in the Fortieth Annual Registration Report, page 150, excepting only the year 1890, for which the rate should be 20.1 instead of 20.7, as printed in the report. Massachusetts and Rhode Island are the only States for which a series of vital rates can be obtained for successive years of registration, based upon carefully estimated populations for inter-census years, from their official publications. In all other cases the registered number of deaths for each year was obtained from the registration reports, or from special lists kindly supplied by the officer in charge of vital statistics in each State. Series of populations were then calculated for inter-census years, based on the population stated for 1880 and 1890 by the Compendium of the Eleventh Census, Part I, using also the State censuses (1885) when such were taken. The method of calculation assumed that the total gain of population between censuses was equally distributed among the inter-census years. For Michigan, and probably for many other States of this country in which immigration is nearly as large an element of growth as natural increase, this method is more correct than the usual assumption that population increases in geometrical ratio. For Ontario, the provincial censuses of 1881 and 1891 were used. In all cases, except Ontario and the United States census, still-births are not included in deaths for the purpose of this comparison.

Special acknowledgments are due to the following gentlemen for data supplied for the preparation of this diagram: Dr. J. S. Billings, Medical Superintendent of Tenth and Eleventh United States Censuses; Dr. C. N. Metcalf, Secretary of the Indiana State Board of Health; Dr. S. W. Abbott, Secretary of the Massachusetts State Board of Health; Dr. Lewis Balch, Secretary, and Dr. T. A. Stuart, Assistant Secretary of the New York State Board of Health;* Hon. Samuel M. Taylor, Secretary of State of Ohio; Dr. P. H. Bryce, Deputy Registrar-General of Ontario; Dr. Gardner T. Swarts, Secretary of the State Board of Health of Rhode Island; Dr. C. A. Lindsley, Secretary of the State Board of Health of Connecticut, Dr. Chas. N. Hewitt, Secretary of the State Board of Health of Minnesota, and Dr. Jerome Cochran, State Health Officer of Alabama.

Table 77 gives some interesting comparisons of the death-rates from important causes of death in Michigan, Massachusetts and England during the twenty years, 1871–90 by means of averages of five-year periods. These averages are taken directly from the Registrar-General's report for England, and, for Massachusetts, were calculated from the yearly averages stated in the registration reports of that State. Concerning the latter there may be some question, as the rates may not have been subjected to revision after census years. For Michigan, the rates stated were obtained directly from the five-year averages given in Table 75 of the last report (based upon the "Nosological Arrangement"). Whatever minor discrepancies may appear, this table probably represents fairly well the general tendencies of the diseases represented, and may be safely employed with the proviso *that the Michigan rates represent about 60 per cent of actual mortality, while the rates for Massachusetts and England are very nearly complete.*

* From the latter, figures were obtained that exceed for certain years those taken from the annual reports and shown in the diagram for New York. The chief difference is for 1890, for which year the death-rate should be increased nearly 1 per 1,000. There were also estimates of additional deaths occurring in towns not making returns (10,000 for 1887), but these are properly omitted, as the object of the diagram is to show only the actual results of registration.

**Table 77.**—*Death-rates per 100,000 population, from certain specified causes, in Michigan, according to the returns,* for the five-year periods, 1871–75, 1876–80, 1881–85, 1886–90, compared with the corresponding rates for Massachusetts and England.*

| Causes of death. | State or country. | Deaths per 100,000 population. | | | |
|---|---|---|---|---|---|
| | | Five years, 1871–75. | Five years, 1876–80. | Five years, 1881–85. | Five years, 1886–90. |
| All causes | Michigan | 937.1 | 889.5 | 983.8 | 1,012.5 |
| | Massachusetts | 2,227.3 | 2,016.8 | 2,137.7 | 2,152.4 |
| | England | 2,196.2 | 2,079.1 | 1,940.3 | 1,889.5 |
| Consumption | Michigan | 108.4 | 110.0 | 113.3 | 111.0 |
| | Massachusetts | 355.5 | 320.0 | 324.7 | 289.4 |
| | England | 221.8 | 204.0 | 183.0 | 163.5 |
| Pneumonia | Michigan | 56.3 | 44.4 | 47.7 | 54.2 |
| | Massachusetts | 150.3 | 146.3 | 165.7 | 173.4 |
| Heart diseases | Michigan | 23.3 | 26.4 | 36.1 | 47.0 |
| | Massachusetts | 81.7 | 91.7 | 121.8 | 151.9 |
| | England | 125.7 | 141.5 | 146.7 | 168.6 |
| Diphtheria | Michigan | 14.5 | 62.2 | 74.5 | 48.8 |
| | Massachusetts | 32.4 | 127.7 | 68.2 | 64.7 |
| | England | 12.1 | 12.2 | 15.6 | 17.0 |
| Croup | Michigan | 12.1 | 15.3 | 19.4 | 21.4 |
| | Massachusetts | 32.3 | 35.7 | 30.7 | 24.3 |
| | England | 18.4 | 15.4 | 16.3 | 12.6 |
| Small-pox | Michigan | 7.7 | 2.5 | 2.2 | .1 |
| | Massachusetts | 28.1 | 1.3 | 1.3 | .2 |
| | England | 41.1 | 7.8 | 7.8 | 1.3 |
| Measles | Michigan | 10.5 | 6.3 | 9.5 | 11.6 |
| | Massachusetts | 14.9 | 8.8 | 11.0 | 11.1 |
| | England | 37.3 | 38.5 | 41.3 | 46.8 |
| Whooping-cough | Michigan | 10.9 | 11.3 | 7.0 | 6.8 |
| | Massachusetts | 20.3 | 17.9 | 13.4 | 14.1 |
| | England | 49.9 | 52.7 | 45.9 | 44.4 |
| Scarlet fever | Michigan | 41.0 | 26.1 | 25.1 | 14.2 |
| | Massachusetts | 88.1 | 42.0 | 27.5 | 18.4 |
| | England | 75.9 | 68.0 | 43.6 | 24.1 |
| Typhoid fever | Michigan | 41.1 | 27.7 | 30.5 | 30.1 |
| | Massachusetts | 84.7 | 46.3 | 51.5 | 44.1 |
| | England | 37.4 | 27.7 | 21.6 | 17.9 |

* The returns for Michigan, under the present system of registration, are very imperfect. An idea of the deficiency that exists may be gained by comparing the numbers of deaths from all causes, as given above, for Michigan, Massachusetts and England.

**Table 77.—CONTINUED.—*Death-rates in Michigan, Massachusetts and Engl compared.***

| Causes of death. | State or country. | Deaths per 100,000 population. | | | |
|---|---|---|---|---|---|
| | | Five years, 1871–75. | Five years, 1876–80. | Five years, 1881–85. | Five y 1886- |
| Cholera infantum | Michigan | 21.1 | 22.6 | 32.6 | |
| | Massachusetts | 162.9 | 107.7 | 109.3 | |
| Diarrhea and dysentery | Michigan | 47.4 | 28.2 | 27.5 | |
| | Massachusetts | 54.5 | 50.8 | 44.6 | |
| | England | 100.0 | 83.2 | 65.6 | |
| Convulsions | Michigan | 20.9 | 19.2 | 21.7 | |
| | Massachusetts | 39.4 | 35.5 | 39.1 | |
| | England | 111.1 | 97.1 | 84.8 | |
| Malarial diseases | Michigan | 12.0 | 8.0 | 10.1 | |
| | Massachusetts | .7 | .4 | 1.3 | |
| | England | .8 | .7 | 1.1 | |
| Puerperal fever | Michigan | 3.1 | 1.9 | 2.2 | |
| | Massachusetts | 5.3 | 4.6 | 6.4 | |
| | England | 8.7 | 6.2 | 9.3 | |
| Erysipelas | Michigan | 9.2 | 5.3 | 4.4 | |
| | Massachusetts | 15.0 | 12.1 | 12.9 | |
| | England | 10.6 | 8.1 | 8.3 | |
| Rheumatism | Michigan | 5.4 | 4.7 | 6.6 | |
| | Massachusetts | 11.3 | 10.1 | 11.6 | |
| | England | 12.7 | 13.9 | 13.2 | |
| Bright's disease | Michigan | .9 | 2.7 | 8.9 | |
| | Massachusetts | 16.7 | 22.6 | 32.9 | |
| Diabetes | Michigan | 2.5 | 2.3 | 3.1 | |
| | Massachusetts | 3.7 | 4.3 | 5.7 | |
| | England | 3.6 | 4.0 | 5.1 | |
| Cancer | Michigan | 12.2 | 17.3 | 19.8 | |
| | Massachusetts | 37.6 | 46.4 | 56.3 | |
| | England | 44.6 | 49.5 | 54.8 | |
| Intemperance | Michigan | 1.8 | .9 | 1.0 | |
| | Massachusetts | 6.9 | 4.5 | 6.7 | |
| | England | 3.8 | 4.2 | 4.8 | |
| Accidental | Michigan | 46.4 | 47.4 | 50.6 | |
| | Massachusetts | 90.0 | 77.4 | 85.6 | |
| | England | 67.1 | 63.0 | 58.0 | |
| Suicide | Michigan | 3.3 | 4.0 | 4.6 | |
| | Massachusetts | 8.2 | 8.4 | 9.4 | |
| | England | 6.6 | 7.4 | 7.5 | |

Table 77.—CONCLUDED.—*Death-rates in Michigan, Massachusetts and England compared.*

| Causes of death. | State or country. | Deaths per 100,000 population. | | | |
|---|---|---|---|---|---|
| | | Five years, 1871-75. | Five years, 1876-80. | Five years, 1881-85. | Five years, 1886-90. |
| Homicide | Michigan | .9 | .7 | 1.1 | 1.2 |
| | Massachusetts | 1.7 | 1.1 | 1.0 | .8 |
| | England | 1.7 | 1.4 | 1.3 | 1.1 |
| Still-born | Michigan | 27.9 | 47.2 | 48.4 | 57.6 |
| | Massachusetts | 88.2 | 75.7 | 85.5 | 96.5 |
| Old age | Michigan | 30.3 | 36.0 | 41.3 | 48.9 |
| | Massachusetts | 106.8 | 97.0 | 107.8 | 96.5 |

Tables 78, 79, 80 and 81 contain comparative rates of consumption, diphtheria and croup, typhoid fever and scarlet fever, respectively, in Michigan, certain States and in England during each of the years, 1880-92. The data must be used subject to the same cautions referred to in discussing the comparative rates from all causes given in Table 76.—which table and accompanying diagram form a sort of correction and guide in their use. It may be assumed that the deficiency of enumeration of any specified disease is about the same as the deficiency in the enumeration of deaths from all causes. No special remarks will be made at this place on the fluctuations of these diseases in the several States, but some comparisons derived from these tables may be found in the general discussion of causes of death beginning on page 188.

Table 78.—*Death-rates from* consumption *per 100,000 population in Michigan, certain other States and England for the years 1880-92.*

| Countries and States. | 1880. | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| England | 186.9 | 182.5 | 185.0 | 188.0 | 182.7 | 177.0 | 173.9 | 161.5 | 156.8 | 157.3 | 168.2 | 159.9 | 146.8 |
| United States | 182.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 163.2 | ..... | ..... |
| Alabama | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 48.4 | 71.5 | 65.0 | 56.0 | 52.3 |
| Connecticut | 213.1 | 221.1 | 221.9 | 229.9 | 210.1 | 207.7 | 195.7 | 201.4 | 206.6 | 198.8 | 206.9 | 187.2 | 179.8 |
| Indiana | ..... | ..... | 66.8 | 86.8 | 103.3 | 102.1 | 93.2 | 97.4 | 95.0 | 83.5 | 86.4 | 89.2 | 88.0 |
| Massachusetts | 308.1 | 324.5 | 317.9 | 316.0 | 303.7 | 306.6 | 295.1 | 285.6 | 270.8 | 256.5 | 258.6 | 238.1 | 242.2 |
| Michigan | 111.7 | 116.1 | 104.4 | 112.3 | 120.8 | 105.3 | 107.3 | 108.7 | 121.0 | 104.3 | 105.4 | 96.3 | 95.2 |
| Minnesota* | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 104.5 | 114.2 | 109.1 | 113.0 | 109.4 | ..... |
| Ohio | 121.8 | 140.0 | 111.8 | 102.6 | 109.2 | 111.0 | 121.6 | 100.4 | 104.9 | 100.9 | 99.6 | 94.4 | ..... |
| New Jersey | 239.9 | 257.6 | 292.0 | 256.0 | 257.5 | 259.8 | 244.4 | 271.6 | 248.7 | 244.3 | 253.9 | 233.8 | 236.5 |
| New York | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 202.8 | 212.9 | 209.8 | 230.6 | 220.8 | 218.0 |
| Rhode Island | 235.8 | 252.4 | 258.7 | 261.3 | 247.4 | 257.3 | 264.6 | 221.3 | 243.1 | 215.6 | 246.5 | 209.2 | 209.7 |
| Ontario | 113.1 | 124.6 | 126.8 | 127.3 | 118.4 | 115.5 | 119.6 | 125.2 | 122.3 | 116.1 | 119.1 | 112.1 | 120.9 |

* Includes all tubercular diseases.

**Table 79.**—*Death-rates from* **diphtheria and croup** *per 100,000 population in Michigan, certain other states and England, for the years 1880-92.*

| Countries and States. | 1880. | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| England | 24.7 | 25.9 | 32.7 | 33.0 | 36.2 | 32.0 | 28.3 | 30.3 | 30.0 | 30.3 | 28.8 | 26.4 | 29.8 |
| United States | 111.9 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 66.6 | ..... | ..... |
| Alabama | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 6.2 | 10.3 | 7.7 | 5.7 | 6.7 |
| Connecticut | 82.4 | 80.5 | 68.7 | 96.4 | 75.7 | 72.9 | 80.7 | 68.8 | 77.1 | 97.7 | 74.6 | 74.6 | 70.3 |
| Indiana | ..... | ..... | 13.0 | 25.0 | 17.9 | 32.7 | 28.8 | 40.0 | 26.6 | 25.6 | 28.7 | 38.9 | 48.4 |
| Massachusetts | 134.3 | 131.4 | 96.0 | 86.4 | 86.2 | 78.4 | 78.0 | 79.2 | 86.6 | 101.7 | 72.6 | 52.9 | 61.4 |
| Michigan | 113.9 | 145.2 | 102.1 | 75.7 | 76.4 | 74.6 | 79.4 | 68.2 | 59.5 | 61.1 | 83.0 | 63.0 | 60.0 |
| Minnesota | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 89.9 | 88.8 | 91.5 | 75.0 | 67.8 | ..... |
| Ohio | 69.8 | 41.1 | 29.8 | 22.3 | 17.3 | 18.0 | 56.6 | 40.7 | 47.7 | 31.1 | 42.6 | 48.4 | ..... |
| New Jersey | 77.2 | 97.2 | 123.7 | 94.0 | 82.2 | 117.1 | 99.4 | 113.5 | 147.7 | 111.5 | 109.0 | 117.5 | 117.5 |
| New York | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 113.4 | 110.9 | 99.1 | 81.9 | 83.3 | 95.8 |
| Rhode Island | 78.8 | 112.4 | 61.9 | 56.6 | 66.6 | 63.4 | 101.8 | 124.7 | 82.1 | 78.3 | 85.1 | 47.8 | 49.2 |
| Ontario | 65.7 | 83.4 | 63.7 | 41.3 | 33.7 | 50.2 | 69.5 | 87.5 | 70.8 | 52.9 | 42.5 | 44.8 | 41.5 |

**Table 80.**—*Death-rates from* **typhoid fever** *per 100,000 population in Michigan, certain other states and England for the years 1880-92.*

| Countries and States. | 1880. | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| England | 26.1 | 21.2 | 22.9 | 22.8 | 23.6 | 17.5 | 18.4 | 18.5 | 17.2 | 17.6 | 17.9 | 16.8 | 13. |
| United States | 45.5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 43.2 | ..... | ..... |
| Alabama | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 33.7 | 29.1 | 29.6 | 24.4 | 22. |
| Connecticut | 38.9 | 40.5 | 50.0 | 44.1 | 41.8 | 33.2 | 35.0 | 27.5 | 40.5 | 38.3 | 41.8 | 39.7 | 40. |
| Indiana | ..... | ..... | 23.8 | 30.1 | 28.9 | 35.9 | 28.4 | 33.8 | 40.8 | 37 2 | 33.9 | 32.4 | 28. |
| Massachusetts | 49.5 | 59.1 | 58.5 | 45.8 | 45.8 | 39.5 | 40.0 | 44.8 | 44.6 | 40.9 | 37.3 | 35.6 | 34. |
| Michigan | 31.3 | 52.5 | 26.8 | 24.7 | 28.2 | 20.7 | 26.1 | 39.3 | 31.9 | 30.6 | 22.2 | 32.0 | 28. |
| Minnesota | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 60.1 | 53.9 | 45.2 | 32.1 | 39.9 | ..... |
| Ohio | 43.7 | 61.7 | 28.9 | 22.6 | 34.5 | 27.4 | 29.8 | 39.2 | 40.4 | 35.0 | 41.8 | 34.0 | ..... |
| New Jersey | 33.0 | 49.5 | 74.3 | 46.3 | 51.3 | 50.2 | 41.8 | 38.8 | 45.0 | 51.3 | 54.1 | 47.0 | 41. |
| New York | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 23.2 | 25.5 | 26.2 | 26.9 | 31.6 | 26. |
| Rhode Island | 51.0 | 41.5 | 74.4 | 81.5 | 42.8 | 34.5 | 38.7 | 36.1 | 68.1 | 40.0 | 31.0 | 42.1 | 36. |
| Ontario | 19.5 | 32.0 | 28.6 | 23.9 | 24.8 | 23.1 | 19.1 | 27.9 | 25.7 | 27.1 | 25.9 | 35.0 | ..... |

**Table 81.**—*Death-rates from* **scarlet fever** *per 100,000 population in Michigan, certain other states and England, for the years 1880-92.*

| Countries and States. | 1880. | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| England | 67.5 | 54.8 | 52.1 | 47.5 | 40.2 | 23.3 | 21.8 | 28.2 | 22.6 | 23.5 | 24.2 | 17.1 | 19.0 |
| United States | 32.7 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Alabama | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | .3 | 1.0 | .9 | .6 | .5 |
| Connecticut | 14.8 | 19.1 | 54.4 | 45.9 | 30.9 | 41.8 | 16.8 | 16.5 | 19.4 | 11.4 | 9.0 | 19.6 | 36.3 |
| Indiana | ..... | ..... | 3.4 | 5.6 | 8.6 | 9.4 | 12.8 | 8.4 | 7.5 | 5.8 | 5.7 | 9.9 | 8.1 |
| Massachusetts | 32.2 | 21.9 | 17.2 | 30.6 | 32.8 | 30.2 | 16.6 | 28.9 | 23.8 | 8.5 | 8.8 | 10.7 | 28.2 |
| Michigan | 22.7 | 22.8 | 34.3 | 37.9 | 17.9 | 13.1 | 16.7 | 16.3 | 16.1 | 11.7 | 10.6 | 18.7 | 20.3 |
| Minnesota | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 16.4 | 11.8 | 26.6 | 12.6 | 15.3 | ..... |
| Ohio | 28.4 | 17.1 | 19.1 | 11.7 | 11.2 | 8.9 | 11.0 | 8.6 | 9.1 | 10.1 | 9.5 | 14.8 | ..... |
| New Jersey | 50.7 | 43.0 | 109.8 | 70.0 | 43.8 | 50.5 | 16.9 | 19.0 | 41.6 | 37.8 | 14.5 | 19.5 | 66.7 |
| New York | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 22.1 | 42.2 | 35.7 | 15.2 | 37.0 | 35.3 |
| Rhode Island | 169.2 | 48.9 | 15.6 | 11.6 | 32.5 | 29.9 | 28.2 | 82.9 | 62.9 | 15.1 | 4.6 | 9.3 | 18.5 |
| Ontario | 21.5 | 24.4 | 28.0 | 20.6 | 19.3 | 15.7 | 12.9 | 5.7 | 6.4 | 7.6 | 7.2 | ..... | ..... |

### DEATHS FROM VIOLENCE IN MICHIGAN, 1892.

The category of deaths from violent causes comprises three general heads: (1) deaths from accidental injuries; (2) suicides, and (3) deaths caused by homicidal violence. All deaths returned simply as due to drowning, poison, etc., the circumstances attending being otherwise unspecified, are presumed to be accidental. Doubtless a few suicidal cases are thus included. Under "homicide" most of the instances are returned as "murder." The statements given in the returns are not sufficiently definite to determine the legal character of the crime involved, and accordingly all are grouped under the general term.

In Table 90 may be found statements of the number of deaths reported from each of these classes by sex, months of death, and periods of age of decedents, and also, under the general heading "accidental," the numbers returned from the chief causes of accidental death, namely, burning, drowning, heat and sunstroke, gunshot-wounds, lightning, mining accidents, poison, railroad accidents and injuries from horses and vehicles. The numbers returned for several preceding years of registration are also shown in connection with those for 1892 for convenient reference and comparison.

Table 82, following, presents a detailed statement of the total number of deaths in the State in 1892 from these causes and from certain minor causes included in one group under the heading "all other casualties" in the table. The distribution of the principal causes of violent deaths is given for the counties of the State in Table 83, and Tables 84 and 85, following, present certain data relative to suicidal deaths in Michigan for the year 1892 and for the period of nineteen years extending from 1874 to 1892, inclusive.

**Table 82.—*Deaths from violence in Michigan in 1892, causes specified.***

| Manner of death. | Number. |
|---|---|
| TOTAL NUMBER OF DEATHS FROM VIOLENT CAUSES | 1,144 |
| I.—ACCIDENTAL | 1,020 |
| II.—SUICIDAL | 107 |
| III.—HOMICIDAL | 17 |
| I.—ACCIDENTAL | *1,020* |
| Burning | 69 |
| Drowning | 164 |
| Heat and sunstroke | 28 |
| Gunshot | 53 |
| Lightning | 10 |
| Mining accidents | 59 |
| Poison (not stated as suicidal) | 37 |
| Railroad accidents and injuries | 74 |
| Vehicles and horses | 45 |
| *All other casualties* | *481* |
| Animals other than horses | 8 |
| Asphyxia | 27 |
| Birth, Injury at | 10 |
| Electricity | 2 |
| Explosion | 15 |
| Exposure | 2 |
| Fall | 38 |
| Falling tree | 19 |
| Fractures | 42 |
| Freezing | 4 |
| Fright | 2 |
| All other casualties.—*Continued.* | |
| Impure milk | 1 |
| Machinery, Injuries from | 18 |
| Outdoor employments, Injury in | 21 |
| Scalding | 25 |
| Surgical operation | 18 |
| Unspecified cause or injury | 229 |
| II.—SUICIDAL | *107* |
| Drowning | 7 |
| Hanging | 9 |
| Jumping from window | 1 |
| *Poison* | *12* |
| Aconite | 1 |
| Corrosive sublimate | 1 |
| Morphine | 2 |
| "Rough on rats" | 1 |
| Unspecified | 7 |
| Shooting | 8 |
| Unspecified | 70 |
| III.—HOMICIDAL | *17* |
| Killed by neck-yoke | 1 |
| Stabbing | 1 |
| Shooting | 3 |
| "Supposed to have been murdered" | 1 |
| "Murdered by husband" | 1 |
| "Murdered"—not further specified | 10 |

**Table 83.**—*Deaths from violence in Michigan in 1892, by counties.*

| State and counties. | Total deaths from violence, 1892. | I.—Accidents. | | | | | | | | | II.—Suicides. | III.—Homicides. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total. | Burning. | Drowning. | Gunshot. | Mining. | Poison. | Railroad. | Vehicles, etc. | All others. | | |
| State | 1,144 | 1,020 | 69 | 164 | 53 | 59 | 37 | 74 | 45 | 519 | 107 | 17 |
| Alcona | 3 | 3 | | | | | | | | 3 | | |
| Alger | 4 | 4 | | 2 | | | | | | 2 | | |
| Allegan | 13 | 9 | | | 1 | | 2 | | | 6 | 4 | |
| Alpena | 9 | 9 | | 5 | 1 | | | | 1 | 2 | | |
| Antrim | 7 | 7 | | 3 | | | 1 | | | 3 | | |
| Arenac | | | | | | | | | | | | |
| Baraga | 5 | 5 | | 2 | | | | 1 | | 2 | | |
| Barry | 13 | 10 | | 2 | 3 | | 1 | 2 | | 2 | 3 | |
| Bay | 33 | 27 | 6 | 5 | 3 | | | 3 | | 10 | 4 | 2 |
| Benzie | 5 | 5 | | | 1 | | 1 | | | 3 | | |
| Berrien | 15 | 13 | 2 | 2 | 2 | | | | | 7 | 1 | 1 |
| Branch | 7 | 6 | | | | | | 1 | 1 | 4 | 1 | |
| Calhoun | 20 | 18 | 3 | | 3 | | 1 | 2 | 1 | 8 | 2 | |
| Cass | 9 | 8 | 1 | 1 | 1 | | 1 | | 1 | 3 | | 1 |
| Charlevoix | 13 | 12 | | 2 | | | | | | 10 | 1 | |
| Cheboygan | 6 | 5 | | 4 | | | | | | 1 | 1 | |
| Chippewa | 9 | 9 | 1 | 2 | | | | 2 | | 4 | | |
| Clare | 2 | 1 | 1 | | | | | | | | 1 | |
| Clinton | 17 | 15 | 3 | | 1 | | 1 | | 1 | 9 | 2 | |
| Crawford | 2 | 2 | | | | | | | | 2 | | |
| Delta | 11 | 10 | 1 | 1 | 1 | | | 1 | 1 | 5 | 1 | |
| Dickinson | 21 | 20 | 1 | 3 | | 9 | | 1 | | 6 | 1 | |
| Eaton | 17 | 13 | 1 | 2 | 2 | | | 3 | 1 | 4 | 3 | 1 |
| Emmet | 3 | 3 | 1 | 1 | | | | | | 1 | | |
| Genesee | 15 | 14 | | 2 | 1 | | 1 | 2 | 1 | 7 | 1 | |
| Gladwin | 1 | 1 | | | | | | | | 1 | | |
| Gogebic | 64 | 63 | | 1 | | 33 | 1 | 3 | | 25 | 1 | |
| Grand Traverse | 7 | 7 | | | | | 1 | | | 6 | | |
| Gratiot | 10 | 10 | 1 | 1 | 1 | | | | 1 | 6 | | |
| Hillsdale | 7 | 4 | | | | | 1 | 2 | | 1 | 3 | |
| Houghton | 30 | 28 | 1 | 6 | | 9 | | | | 12 | 2 | |
| Huron | 12 | 12 | 2 | 2 | 1 | 1 | | 1 | | 5 | | |
| Ingham | 15 | 10 | | 1 | | | 2 | | | 7 | 5 | |
| Ionia | 12 | 12 | 2 | | 1 | | 1 | | 3 | 5 | | |

**Table 83.—CONTINUED.—*Deaths from violence, by counties, 1892.***

| Counties. | Total deaths from violence, 1892. | I.—Accidents. | | | | | | | | | II.—Suicides. | III.—Homicides. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total. | Burning. | Drowning. | Gunshot. | Mining. | Poison. | Railroad. | Vehicles, etc. | All others. | | |
| Iosco | 10 | 8 | ..... | 4 | ..... | ..... | ..... | ..... | ..... | 4 | 1 | 1 |
| Iron | 10 | 10 | 1 | 1 | ..... | 3 | ..... | 1 | ..... | 4 | ..... | ..... |
| Isabella | 7 | 6 | 1 | ..... | ..... | ..... | 1 | 1 | ..... | 3 | 1 | ..... |
| Jackson | 9 | 8 | 2 | 1 | ..... | ..... | ..... | 2 | 2 | 1 | 1 | ..... |
| Kalamazoo | 15 | 10 | ..... | 1 | 1 | ..... | ..... | 1 | 1 | 6 | 4 | 1 |
| Kalkaska | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Kent | 57 | 50 | 4 | 3 | 3 | ..... | 4 | 7 | 3 | 26 | 7 | ..... |
| Keweenaw | 1 | 1 | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... |
| Lake | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Lapeer | 10 | 8 | 1 | 1 | 1 | ..... | ..... | 1 | 2 | 2 | 2 | ..... |
| Leelanau | 1 | 1 | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... |
| Lenawee | 12 | 9 | 2 | 1 | ..... | ..... | ..... | 1 | 1 | 4 | 3 | ..... |
| Livingston | 9 | 8 | 1 | 1 | ..... | ..... | ..... | ..... | ..... | 6 | 1 | ..... |
| Luce | 3 | 3 | ..... | ..... | 1 | ..... | ..... | ..... | ..... | 2 | ..... | ..... |
| Mackinac | 2 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 | ..... | ..... |
| Macomb | 18 | 14 | ..... | 5 | 1 | ..... | 1 | ..... | ..... | 7 | 3 | 1 |
| Manistee | 14 | 12 | 2 | 1 | ..... | ..... | ..... | ..... | 1 | 8 | 2 | ..... |
| Manitou | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Marquette | 49 | 46 | 4 | 10 | ..... | 3 | 1 | 1 | ..... | 27 | 2 | 1 |
| Mason | 5 | 5 | ..... | 2 | ..... | ..... | ..... | ..... | ..... | 3 | ..... | ..... |
| Mecosta | 12 | 11 | ..... | 2 | ..... | ..... | ..... | ..... | ..... | 9 | 1 | ..... |
| Menominee | 11 | 10 | ..... | 3 | ..... | ..... | ..... | ..... | 1 | 6 | 1 | ..... |
| Midland | 10 | 9 | ..... | 3 | ..... | ..... | ..... | ..... | ..... | 6 | 1 | ..... |
| Missaukee | 5 | 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 5 | ..... | ..... |
| Monroe | 14 | 12 | 1 | ..... | 1 | ..... | ..... | 2 | 1 | 7 | 2 | ..... |
| Montcalm | 13 | 12 | ..... | 4 | ..... | ..... | ..... | ..... | 1 | 7 | 1 | ..... |
| Montmorency | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Muskegon | 17 | 17 | 2 | 1 | ..... | ..... | 2 | 1 | ..... | 11 | ..... | ..... |
| Newaygo | 7 | 7 | 1 | 1 | ..... | ..... | 1 | ..... | ..... | 4 | ..... | ..... |
| Oakland | 20 | 14 | ..... | ..... | 1 | ..... | 1 | 5 | 2 | 5 | 5 | 1 |
| Oceana | 8 | 7 | 1 | ..... | 2 | ..... | 1 | 1 | ..... | 2 | ..... | 1 |
| Ogemaw | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ontonagon | 2 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 | ..... | ..... |
| Osceola | 9 | 9 | ..... | 2 | ..... | ..... | ..... | ..... | 2 | 5 | ..... | ..... |
| Oscoda | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... |

**ıble 83.—CONCLUDED.—*Deaths from violence, by counties, 1892.***

| | Total deaths from violence, 1892. | I.—Accidents. | | | | | | | | | II.—Suicides. | III.—Homicides. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total. | Burning. | Drowning. | Gunshot. | Mining. | Poison. | Railroad. | Vehicles, etc. | All others. | | |
| ---- | 2 | 2 | 1 | ..... | ..... | ... .. | ..... | ..... | ..... | 1 | ..... | ..... |
| ---- | 11 | 11 | 2 | 4 | ..... | ..... | ..... | ..... | 2 | 3 | ..... | ..... |
| ---- | 2 | 1 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... |
| ---- | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| ---- | 72 | 61 | 2 | 11 | 3 | ..... | ..... | 9 | 2 | 34 | 9 | 2 |
| ---- | 8 | 8 | ..... | 2 | 1 | ..... | 1 | ..... | ..... | 4 | ..... | ..... |
| .. . | 4 | 3 | 1 | ..... | 1 | ..... | ..... | 1 | ..... | ..... | ..... | 1 |
| ---- | 9 | 7 | ..... | 1 | ..... | ..... | 2 | 1 | ..... | 3 | 2 | ..... |
| ---- | 39 | 35 | ..... | 13 | 2 | ..... | ..... | 4 | 3 | 13 | 3 | 1 |
| ---- | 15 | 12 | 2 | ..... | ..... | ..... | 1 | 2 | ..... | 7 | 3 | ..... |
| --- | 9 | 9 | ..... | 3 | 1 | ..... | ..... | ..... | 1 | 4 | ..... | ..... |
| ---- | 16 | 12 | ..... | 1 | ..... | ..... | 1 | ..... | 1 | 9 | 3 | 1 |
| ---- | 12 | 12 | 2 | 1 | 1 | ..... | ..... | ..... | 1 | 7 | ..... | ..... |
| ---- | 164 | 152 | 9 | 30 | 10 | ..... .. | 5 | 8 | 5 | 85 | 11 | 1 |
| ---- | 3 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 2 | ..... | ..... |

I.—ACCIDENTAL DEATHS, 1892.

20 deaths from accidental injuries in 1892, a large majority, 849, were males; ıales. The preponderance of males exists in all the modes of injury shown except in the case of deaths from burning, in which the females are in males to 27 males) and from poison, in which the proportion of the sexes is equal, although from this cause the ratio is over two to one. For a few of injury, as, for example, fracture of the hip, the deaths of females are ous in 1892 as in most years preceding.

—Of the 69 deaths from burning in 1892, 8 were stated to have occurred in vith the burning of dwellings or other buildings; 3, 2 males and 1 female, ) have been caused by the explosion of kerosene, and 4, 2 of each sex, by n of gasoline. It should be remembered, should any use be made of these that not all the deaths that actually occurred in the State from this or any were returned by the enumerators, and that in but a small proportion of ed were the particulars relating to the manner of the accident definitely n addition to the number of deaths from burning there were 25 deaths g, included under miscellaneous casualties. These should be added to give ıths from burning and scalding, 94, for comparison with previous reports.

.—Of the 164 deaths from accidental drowning reported in 1892, 118 were es bordering upon the Great Lakes. Many of the deaths in these counties ngs that occurred in rivers or inland lakes; the number of deaths due to dis-

asters to shipping in Michigan waters cannot be learned from the registration returns. With a coast-line of over 1,600 miles, Michigan is peculiarly interested in the navigation of the lakes, and many of the deaths caused by wrecks and accidents to shipping, occurring within her waters, are properly included in the vital statistics of the State. The following statement of the number of vessels, loss of lives and property on the Great Lakes from December 17, 1885, to November 15, 1893, is from a report issued by the Secretary of Agriculture:

| Lake. | Vessels. | Estimated loss. | Lives lost. |
|---|---|---|---|
| Superior | 82 | $1,290,889 | 62 |
| Michigan | 85 | 1,884,168 | 130 |
| Huron | 44 | 901,330 | 67 |
| Erie | 50 | 808,482 | 134 |
| Ontario | 16 | 116,800 | 18 |
| Totals | 227 | $4,951,099 | 420 |

In the year 1892 there were 46 lives lost by wrecks in Michigan waters. In addition to this number 14 lives were lost by the foundering of the steamer *Nashua* on Lake Huron at a point near the Canadian coast, thus making a total of 60 lives lost on the lakes touching the State. The particulars, as given in the report referred to above, were as follows:

LAKE SUPERIOR.—Steamer *Western Reserve* foundered and sank in deep water about 9 p. m., August 30, 1892, the wind being fresh from the northwest with some sea. The crew and 6 passengers took to the lifeboats; 19 of the crew in one boat and 3 of the crew and 6 passengers in the second; the boat containing the 19 persons ran before the sea and wind, the wind increasing in force and the sea becoming heavier during the night, and about 7 a. m., when about one mile from shore, and some eight miles above Deer Park (Luce county), the boat capsized in the breakers and all were drowned with the exception of the wheelsman, who was the sole survivor of the wreck; nothing was ever heard of the other boat. Some of the wreckage came ashore at Point Mamainse, Ont. This fine steel steamer was light bound for Two Harbors, for cargo, and the estimated value of the vessel was $220,000. Lives lost, 27.

LAKE SUPERIOR.—Schooner *Zach Chandler* stranded through stress of weather in a heavy gale and snowstorm, after her sails were blown away, October 29, 1892. One life lost. Estimated value of vessel and cargo, $23,500.

LAKE MICHIGAN.—Steamer *W. H. Gilcher* foundered and became a total loss in a heavy northwest gale October 28, 1892. The entire crew was lost and nothing was ever heard of the wreck. Estimated value of vessel, $200,000; cargo, $15,000; total, $215,000. This fine steel steamer was laden with coal bound for Milwaukee, Wis., and was supposed to have foundered near the Fox Islands (part of Manitou county), with a crew of 18 persons.

LAKE HURON.—Steamer *Nashua* foundered about fifteen miles off Point Clark, Ont., October 4, 1892, in a heavy northwest gale. The hull drifted ashore four days later bottom up, a total loss, with the boiler and machinery out, and the stern of the vessel broken off. Estimated value of vessel and cargo, $17,290 Lives lost, 14.

*Mining Accidents.*—Mining accidents were responsible for 59 deaths in 1892 according to the returns. They were distributed as shown in Table 83: 33 in Gogebic county, 9 each in Dickinson and Houghton counties, 3 each in Iron and Marquette counties, and one each in Huron and Keweenaw counties. As is true of all classes of returns, the full number of deaths that occurred from mining accidents was not enumerated. According to the annual reports of the Mining Inspector of Gogebic county, Mr. Clarence M. Boes, to whom the thanks of this Department are due for information promptly furnished, there were 44 deaths from accidents in the mines of Gogebic county during

1892. The occupations of the men killed were as follows: carpenter, 1; engineers, 2; laborers, 7; miners, 20; pumpmen, 2; trammers, 4; skip tender, 1; timbermen, 7. There were 11 deaths from fall of ore; 4 from accidents with powder or blasting; 10 men were killed September 29, 1892, by the caving of a room in the East Norrie mine. The remaining fatal accidents were mostly in connection with the "cages" or "skips," or caused by falling bodies or falls in the shafts. The following is the account of the most important accident, as stated in the report of Inspector Boss:

"At the East Norrie mine, at about 5 a. m., September 29, there occurred the most serious accident that has yet attended mining operations on the Gogebic range, and resulting in the loss of 10 lives. There were 10 men working in the first room east of No. 8 shaft. This room was a large one, and, on account of the great width of vein in this portion of the mine, was worked in two sections, one portion three sets wide and seven sets long, then a pillar of three sets, then the room opened to the hanging wall eight sets further. All the men but two were working in the first section of this room at the time of the accident. The shift boss in charge of this part of the mine was at the time in a room a short distance west of the shaft, and noticing the rush of air that accompanies a large fall of ground, went to investigate. On passing the shaft he noticed that the skip tender was not there, and going into the east drift found that it was caved full at the entrance to the room and the turn-table buried. He then called some men and set them at work to clean out the drift and then went on surface and notified the captain who returned to the place with him. It was found that the caved material was running into the drift about as fast as the men could remove it, and they could make no headway, and it was decided to start a drift into the solid pillar to reach the side of the room. This work was pushed with remarkable speed, but upon reaching the room it was found to be filled also. They continued to drift along the west side of the room, and, hearing sounds further in, redoubled their efforts, and at the north end of the first chamber came upon Abraham Thompson who was in a small opening in the debris and uninjured. This was at 9 a. m., Sept. 30, the wonderful performance of drifting 75 feet in solid iron ore in 22 hours being without a parallel in the annals of iron mining. Drifting on into the second chamber, this was found to be open and in good condition and it was hoped that some of the men might be found here, but the two men who were employed in this chamber, Thompson and his partner, had just left at the time of the accident. Thompson being the last to leave did not get under the full force of the cave. At this time hope was abandoned of finding any of the others alive, but work was prosecuted vigorously, of clearing out the room and for the recovery of the bodies. This was a blind search as it was not known in what portion of the room the men were when the cave occurred. An attempt was made to find the tram car. This was reached Saturday evening, October 1, and by it were found the bodies of the two trammers, John Hermanson and Matt Matson, also Samuel Densham, a miner, and Michael Downs, the missing skiptender who had evidently gone into the room from motives of curiosity. Continuing the search, Simon Vecilan, foreman of the timber gang, was found at 7 a. m., October 4, and on the 5th Herman Ericson and John Blumquist, timbermen, and Frank Densham, a miner, were taken out. The fourth miner, John Johnson, was found Friday evening, October 6. The room was nearly all cleared out before the body of the remaining timberman, John Sundquist, was found; this was accomplished at 11:30 p. m., October 15, nearly 18 days after the accident. From the positions in which the bodies were found it is evident that the cave occurred suddenly and without the slightest warning, the tools being still in their hands. As to the cause of the cave it is mere conjecture; the room to the east of this was caved a few days before by blowing out the timbers and all settled full down to the sixth level. The pillar between was a large one, and had no appearance of being disturbed or shaken, and the first room was considered by all to be entirely safe. It is said there was some blasting on the seventh level under the caved second room at about the time of the accident and it is possible that this may have caused the pillar to sway to the east and permit the back to drop suddenly. The inquests held in the several cases resulted in attributing the deaths to accidental causes."

*Poison.*—All cases of poisoning are included under accidental deaths in which the agent was not stated in the returns to have been administered with suicidal intent. Of the 37 deaths from this cause in 1892, 15 were children under 5 years of age. Of the children under 5 years, one each died from the following poisons: laudanum, iodine, morphine, prussic acid and rat poison (arsenic). Five adults died from morphine poisoning, one each from arsenic, carbolic acid and lead, the latter probably chronic lead poisoning, and five from the effects of chloroform, in two cases of which the chloroform was stated to have been administered by dentists. In all the other cases, 19, the drug employed was not stated.

*Railroad Accidents.*—According to the registration returns there were only 74 deaths from injuries received on railroads in Michigan in 1892. This number is much less than that reported to Hon. S. R. Billings, Commissioner of Railroads, for the year, and published in his 21st Annual Report. Of the greater accuracy of the Commissioner's figures there can be no question, and in addition to the larger number reported (167), as compared with the registration returns, many valuable particulars are given in regard to the manner in which the injuries were received, connection of the persons injured with the roads as employés or passengers, etc., and degree of negligence or carelessness concerned. The following statements are made upon the authority of the Railroad Commissioner's Report:

*Deaths and injuries on railroads in Michigan, 1891 and 1892.*

| Manner of accident. | Killed, 1892. | | | | Injured, 1892. | | | | 1891. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Passengers. | Employés. | Others. | Total. | Passengers. | Employés. | Others. | Total. | Killed. | Injured. |
| Collisions | ..... | 2 | ..... | 2 | 6 | 8 | 1 | 15 | 12 | 34 |
| Coupling cars | ..... | 17 | ..... | 17 | ..... | 223 | ..... | 223 | 8 | 165 |
| Derailment | ..... | ..... | ..... | ..... | 20 | 4 | ..... | 24 | 1 | 12 |
| Falling from trains | 1 | 23 | 1 | 25 | 2 | 31 | 1 | 34 | 14 | 40 |
| Frogs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 |
| Getting on and off trains | 4 | 4 | 2 | 10 | 12 | 27 | 6 | 45 | 14 | 37 |
| At highway crossings | ..... | ..... | 8 | 8 | ..... | ..... | 23 | 23 | 26 | 18 |
| Miscellaneous causes | 1 | 27 | 2 | 30 | 5 | 169 | 7 | 181 | 19 | 129 |
| Overhead obstructions | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4 |
| Trespassers on trains | ..... | ..... | 9 | 9 | ..... | ..... | 25 | 25 | 12 | 36 |
| Trespassers on track | ..... | ..... | 66 | 66 | ..... | 1 | 48 | 49 | 69 | 87 |
| Total | 6 | 73 | 88 | 167 | 45 | 463 | 111 | 619 | 175 | 514 |

"The total number of accidents reported by all roads for 1892 is 786, an increase of 96 over the preceding year. The number of fatal accidents reported is 167, a decrease of 8 from 1891. Of the above, 207 are reported as having been clearly accidental, the remaining 579 resulting from negligence, lack of caution and the persistent habit of trespassing upon tracks and trains—147 trespasserr or trampe, 7 intoxicated people and 5 suicides were killed or injured. The following comparative statement shows the number of passengers carried, number of passengers, employés and others killed and injured for 11 years, 1883-93." (To this table have been added in the State Department the additional columns showing the total numbers killed and injured in each year, and the rates per 1,000,000 passengers carried.)

The death-rate per 1,000,000 passengers carried for all classes of decedents (passengers, employés and trespassers and persons not connected with the railroads in any capacity included) is less in the year 1892 than for any year since 1884, which exhibits the same ratio, 4.1 per 1,000,000. The actual death-rate of passengers to total passengers carried was only about one-half as great, however, in 1892 as in 1884. A very remarkable reduction will be seen in the accident and injury rates for 1893, although the exact amount cannot be stated at present, the figures for the immense passenger traffic of the World's Fair year being not yet available.

*Passengers carried, deaths and injuries on railroads in Michigan, 1883-93.*

| Year. | Number of passengers carried. | Number of passengers. | | Number of employés. | | Number of others. | | Total number. | | Rate per 1,000,000 passengers carried. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Killed. | Injured. | Killed. | Injured. | Killed. | Injured. | Killed. | Injured. | Killed. | Injured. |
| 1883 | 25,312,275 | 15 | 54 | 62 | 289 | 86 | 73 | 163 | 416 | 6.4 | 16.4 |
| 1884 | 24,782,822 | 5 | 31 | 29 | 294 | 68 | 68 | 102 | 393 | 4.1 | 15.9 |
| 1885 | 22,970,564 | 7 | 29 | 45 | 229 | 71 | 58 | 123 | 316 | 5.4 | 13.8 |
| 1886 | 24,697,065 | 2 | 38 | 47 | 194 | 77 | 79 | 126 | 311 | 5.1 | 12.6 |
| 1887 | 24,057,719 | 2 | 32 | 62 | 251 | 78 | 87 | 142 | 370 | 5.9 | 15.4 |
| 1888 | 27,436,106 | 7 | 21 | 63 | 256 | 90 | 88 | 160 | 365 | 5.8 | 13.3 |
| 1889 | 31,136,050 | 8 | 26 | 60 | 282 | 110 | 86 | 178 | 394 | 5.7 | 12.7 |
| 1890 | 38,503,059 | 7 | 58 | 75 | 491 | 150 | 93 | 232 | 637 | 6.9 | 19 0 |
| 1891 | 34,308,271 | 5 | 47 | 52 | 355 | 118 | 112 | 175 | 514 | 5.6 | 15.0 |
| 1892 | 40,355,149 | 6 | 45 | 73 | 463 | 88 | 111 | 167 | 619 | 4.1 | 15.3 |
| 1893 | * | 47 | 76 | 53 | 110 | 72 | 52 | 172 | 238 | ..... | ..... |

* The number of passengers carried for the year 1893, on account of the World's Fair, largely exceeded that of any previous year. The exact figures are not yet obtainable. The total number of accidents reported from January 1, 1893, up to the first of December, 1893, is much less than for any year shown, but the number of passengers killed very much exceeds that of any other year, which is accounted for by the accidents that occurred at Jackson on the Michigan Central and at Battle Creek on the Chicago & Grand Trunk railroads.

*Classes of railroad employés in Michigan, number of each class killed and injured, and death and injury rates per 1,000 employés of each class, 1892.*

| Classes. | Number of employés. | Killed. | Injured. | Total. | Rate per 1,000. | | |
|---|---|---|---|---|---|---|---|
| | | | | | Killed. | Injured. | Total. |
| Baggagemen | 342 | ..... | 31 | 31 | ..... | 90.7 | 90.7 |
| Brakemen | 1,844 | 28 | 151 | 179 | 15.2 | 81.9 | 97.1 |
| Conductors | 942 | 2 | 21 | 23 | 2.1 | 22.3 | 24.4 |
| Engineers | 1,419 | 1 | 17 | 18 | .7 | 12.0 | 12.7 |
| Firemen | 1,455 | 7 | 19 | 26 | 4.8 | 13.1 | 17.9 |
| Laborers | 8,579 | 15 | 60 | 75 | 1.7 | 7.0 | 8.7 |
| Shopmen | 3,960 | 1 | 18 | 19 | .3 | 4.5 | 4.8 |
| Yardmen | 1,514 | 10 | 109 | 119 | 6.6 | 72.0 | 78.6 |
| Others | 7,764 | 9 | 37 | 46 | 1.2 | 4.7 | 5.9 |
| Total | 27,819 | 73 | 463 | 536 | 2.6 | 16.7 | 19.3 |

On page xv of the Railroad Commissioner's report for 1893 is presented a classified statement of the total number of employés of Michigan roads both within and without the State, amounting to 82,931. Of this number, 27,819, or 33.5 per cent are employed in Michigan. Assuming that the men are distributed by occupations in Michigan in the same manner as stated for the total number of employés, and comparing the number of men killed and injured in each class in Michigan during 1892, we obtain some

important rates bearing upon the comparative hazardness of different branches of railroad service. It should be observed that the numbers are quite small, being only for one year, and a longer period of observation is demanded before accepting the statements as conclusive.

According to these figures the risk of fatal injury is over twice as great for brakemen as for any other class of railroad employés, 15.2 being killed, on the average, out of every 1,000 employed per annum. The next in order in point of danger is that of the yardmen (chiefly switchmen) with a rate of 6.6 killed per annum per 1,000 employed. The accident death-rate of firemen was 4.8 per 1,000. Other classes of employés are much lower in the scale. Both the injury and mortality rates for engineers are lower than for any other class actively engaged in road service. It must be remembered that the experience of a single year may not be fairly representative in all respects. The number of baggagemen injured in 1892 appears to have been unusually high as compared with the preceding year (31 and 3); this may arise from the inclusion of minor injuries in the latter year.

*Injuries from Horses and Vehicles.*—Horses were reported to have caused 17 deaths directly, besides 9 that occurred from runaways, 6 by being run over and 8 by falls or injuries about wagons. Street cars caused 4 deaths, all males and under 20 with one exception. Cable cars and electric cars are not specified in the returns of this year. One death was caused by a bicycle, a male between 65 and 70 years of age.

*Miscellaneous Casualties.*—Miscellaneous casualties numbered 481, the principal varieties of which are stated in Table 82. Of the 27 deaths from *asphyxia*, 6 were due to choking, 5 were smothered, 8 strangled, 4 suffocated, and 1 from illuminating gas; 3 were reported as such. One infant was reported to have been injured by the use of forceps at birth; in 9 cases of injury at birth the cause of the injury was not stated. Five deaths were reported from cattle, and 3 from injuries by dogs (not stated as hydrophobia). Electricity caused 2 deaths, both adult males. Explosions caused 15 deaths, of which 14 were definitely stated to be from explosion of steam boilers. Ten deaths resulted from falling from height, 27 from fall unspecified as to character, 1 from fall of building, and 19, all males, from falling trees. Fractures caused 42 deaths in 1892, 30 males and 12 females, as follows: arm, 1; hip, 5; leg, 8; neck, 2; pelvis, 1; skull, 18; spine, 6; thigh, 1. Four deaths, 3 males and 1 female, all adults, resulted from freezing. To this number should perhaps be added a few reported as due to "cold" (see Table 90), it being uncertain whether disease or freezing is to be understood by this term. Deaths from machinery numbered 18, with 1 exception, males, as follows: elevator, 1; engine-room, 1; machinery, 1; mill, 4; paper mill, 1; planing mill, 1; saw mill, 8; shop, 1. Deaths in the course of what may be termed outdoor occupations were 21: "clay bank fell on him," 1; stump machine, 1; fall of log, 4; caving-in of land, 1; "crushed by stone while burying it," 1; "load of logs turning over," 2; "killed by falling of straw-stack on him," 1; under water-tank, 1; in well, 1; fall of barrel of ashes, 1; falling board, 1; "killed in woods," 3; "crushed under case of heavy glass," 1; axe, 1; injury on boat, 1. Impure milk was stated to have caused the death of 1 infant. Surgical operation should not be stated as a cause of death as a rule, the disease or injury that occasioned the operation being the true cause of death. In 1892, 18 deaths were so reported: 1 after amputation of arm, 2 after amputation of leg, and 2 after ovariotomy; 13 were entirely unspecified. Scalding caused 25 deaths, 15 males and 10 females; 19 of these were children under 5 years of age. There were 229 deaths from accidental injuries returned in which either the means of death or the nature of the injury

caused death was not definitely specified. These were as follows: killed by accident, 181; injury, 4; internal injury, 4; injury of spine, 6; injury of head, 2; shock after injury, 4; concussion of brain, 11; concussion of heart, 1; contusion of spine, 2; head crushed, leg cut and bled to death, tumor from bruise, wound in leg, paralysis from accident, strain, scalp wound, found dead in woods, sliver in side, inflammation of brain from accident while intoxicated, drank too much water, killed on boat, stung by bee, crushed,—each, 1.

### II.—SUICIDAL DEATHS, 1892.

There were 107 suicidal deaths in Michigan during the year 1892 according to the registration returns. In some cases compiled as accidental deaths the motives of decedents may have been suicidal, but it is obviously impossible to treat such cases other than as they appear on the face of the returns. The number of deaths from suicide in 1892 is only exceeded, and that very slightly, by the number reported for one previous year of registration, 1890. Both of these years are higher in the list than the intervening year, 1891, for which only 79 deaths were so reported.

The facts of chief importance in regard to deaths of suicides in Michigan for the year 1892, together with the aggregate for nineteen years of registration, 1874-92, are stated in Tables 84 and 85. In the latter table, relating to nativity, occupation and means of death of suicides, the numbers registered for the present year are given in parentheses after each statement, thus making comparison easy with the total number for the period of nineteen years preceding. In Table 90 the number of suicides of each sex are given for each month and period of age.

Although suicides, like all other deaths, are imperfectly registered in Michigan, comparison of the figures returned for successive periods of years, in which the same percentage of deficiency may be presumed to obtain, shows that the death-rate from this cause is increasing. It was 3.3 per 100,000 population for the five-year period, 1871-75 (see Table 77); 4.0, 4.6 and 4.9 for the following periods in order. Of course these rates are much below the truth, but the fact of increase seems to be clearly indicated. As indicative of the increased tendency to suicide in American life, the following conclusions of Dr. Davis R. Dewey, derived from a careful study of the statistics of the New England States, may be quoted:*

"It is clearly seen that the suicidal tendency has been steadily increasing in the last twenty years in Massachusetts and Connecticut; that in Vermont there has been a general advance, not however so regular, while in Rhode Island no marked tendency in any one direction has been discerned. Taking New England as a whole, it seems probable from the data presented that suicides have increased from thirty to sixty per cent since 1860. In Connecticut the advance in the rate has been very marked in the past ten years, disclosing an amount which it is difficult to parallel in English-speaking countries."

### III.—HOMICIDES, 1892.

The more general term homicide is employed instead of the word murder, usually found in the returns, because it is evident that in our loose and inaccurate records, where even the manner of death is not generally specified, any point that requires discrimination, as the legal status of a homicide, cannot be depended upon. Many deaths fail to be registered in Michigan from each cause, and it is probable that the number returned as homicides would be increased if all that occurred were properly recorded. A list from the newspaper reports day by day through the year would very likely show a larger number than are officially returned. Taking our imperfect returns as a basis, it would seem, as shown in Table 77, that there has been an increase in the proportion of violent deaths of this class in recent years.

* Publications American Statistical Association, 1892; III, 158.

**Table 84.**—*Months of death, sex and civil condition of persons reported as suicides in Michigan for each of the nineteen years, 1874-92, inclusive.*

| Years. | Number. | Months of death. | | | | | | | | | | | | | Sex. | | | Condition. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan. | Feb. | Mar. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Unk. | Total. | Males. | Females. | Married. | Single. | Widow. | Unk. |
| Total, 1874-92 | 1,493 | 84 | 65 | 98 | 139 | 141 | 140 | 139 | 138 | 120 | 132 | 142 | 148 | 7 | 1,493 | 1,135 | 357 | 912 | 387 | 131 | 63 |
| 1874 | 53 | 7 | 3 | 4 | 1 | 4 | 5 | 5 | 4 | 3 | 5 | 6 | 6 | ..... | 53 | 31 | 22 | 28 | 17 | 4 | 4 |
| 1875 | 52 | 3 | 4 | 3 | 4 | 8 | 4 | 4 | 4 | 5 | 3 | 6 | 4 | ..... | 52 | 42 | 10 | 34 | 10 | 3 | 5 |
| 1876 | 54 | 3 | 1 | 3 | 7 | 7 | 8 | 2 | 4 | 5 | 6 | 5 | 3 | ..... | 54 | 43 | 11 | 35 | 12 | 3 | 4 |
| 1877 | 66 | 2 | 5 | 7 | 4 | 7 | 5 | 6 | 7 | 4 | 2 | 7 | 10 | ..... | 66 | 46 | 20 | 38 | 23 | 2 | 3 |
| 1878 | 63 | 5 | 2 | 5 | 5 | 5 | 9 | 5 | 7 | 5 | 6 | 5 | 4 | ..... | a 63 | 40 | 23 | 41 | 16 | 4 | 2 |
| 1879 | 59 | 3 | 2 | 4 | 7 | 3 | 8 | 5 | 7 | 5 | 4 | 4 | 7 | ..... | 59 | 46 | 13 | 35 | 19 | 3 | 2 |
| 1880 | 65 | 4 | 3 | 6 | 8 | 9 | 6 | 3 | 4 | 7 | 2 | 6 | 6 | 1 | 65 | 50 | 15 | 38 | 20 | 4 | 3 |
| 1881 | 57 | 1 | 5 | 3 | 3 | 4 | 4 | 7 | 9 | 7 | 4 | 6 | 4 | ..... | 57 | 42 | 15 | 34 | 11 | 9 | 3 |
| 1882 | 62 | 2 | 3 | 4 | 6 | 8 | 7 | 2 | 7 | 5 | 7 | 4 | 6 | 1 | 62 | 44 | 18 | 32 | 24 | 3 | 3 |
| 1883 | 91 | 5 | 1 | 7 | 9 | 5 | 8 | 11 | 9 | 4 | 6 | 16 | 10 | ..... | 91 | 69 | 22 | 53 | 23 | 12 | 3 |
| 1884 | 104 | 4 | 5 | 7 | 8 | 6 | 16 | 8 | 8 | 14 | 10 | 10 | 8 | ..... | 104 | 84 | 20 | 71 | 28 | 4 | 1 |
| 1885 | 91 | 4 | 4 | 3 | 7 | 7 | 9 | 9 | 11 | 4 | 14 | 10 | 8 | 1 | b 91 | 78 | 12 | 55 | 19 | 13 | 4 |
| 1886 | 82 | 7 | 2 | 4 | 6 | 13 | 5 | 4 | 11 | 9 | 7 | 5 | 9 | ..... | 82 | 64 | 18 | 46 | 20 | 11 | 5 |
| 1887 | 105 | 3 | 4 | 10 | 12 | 11 | 5 | 10 | 12 | 10 | 13 | 6 | 9 | ..... | 105 | 75 | 30 | 63 | 28 | 10 | 4 |
| 1888 | 101 | 6 | 4 | 3 | 10 | 13 | 11 | 9 | 7 | 9 | 11 | 8 | 8 | 2 | 101 | 82 | 19 | 54 | 31 | 12 | 4 |
| 1889 | 94 | 7 | 3 | 3 | 7 | 7 | 8 | 7 | 11 | 4 | 8 | 11 | 17 | 1 | 94 | 78 | 16 | 59 | 19 | 14 | 2 |
| 1890 | 108 | 7 | 8 | 7 | 11 | 11 | 7 | 17 | 7 | 7 | 8 | 9 | 9 | .... | 108 | 90 | 18 | 70 | 25 | 7 | 6 |
| 1891 | 79 | 8 | 1 | 7 | 9 | 4 | 6 | 8 | 3 | 5 | 10 | 9 | 8 | 1 | 79 | 49 | 30 | 55 | 16 | 6 | 2 |
| 1892 | 107 | 3 | 5 | 8 | 15 | 9 | 9 | 17 | 6 | 8 | 6 | 9 | 12 | .... | 107 | 82 | 25 | 71 | 26 | 7 | 3 |

a 1 mulatto. b 1 sex unknown.

**Table 85** (A).—*Occupations of persons reported as suicides in 1892, with aggregate for nineteen years, 1874–92, inclusive. (The numbers for the year 1892 are in parentheses.)*

| Occupations. | No. | Occupations. | No. | Occupations. | No. |
|---|---|---|---|---|---|
| Agents | 11 | Farm-workers (1) | 1 | Physicians (1) | 8 |
| Architects | 1 | Firemen (1) | 1 | Photographers | 1 |
| Bakers | 2 | Furniture packers (1) | 1 | Policemen | 1 |
| Bankers | 3 | Gardeners | 2 | Printers | 4 |
| Barbers (3) | 5 | Grain dealers | 1 | Prostitutes | 9 |
| Beer peddler (1) | 1 | Harness makers (1) | 3 | Real estate dealers (1) | 1 |
| Blacksmiths (1) | 8 | Hatters | 1 | Sailors | 5 |
| Book agents | 1 | Hostlers | 1 | Salesmen (1) | 6 |
| Bookkeepers (1) | 14 | Hotel keepers (2) | 8 | Saloonkeepers | 23 |
| Brewers | 5 | Housekeepers (8) | 120 | School girls (1) | 1 |
| Brickmakers | 3 | Housewives | 37 | Seamstresses | 1 |
| Brick masons | 1 | Housework (1) | 5 | Servants (2) | 31 |
| Business men | 4 | Insurance agents (1) | 4 | Ship carpenters | 1 |
| Butchers | 9 | Laborers (9) | 203 | Shoemakers (1) | 15 |
| Cabinet makers | 3 | Lawyers | 6 | Soldiers (1) | 4 |
| Carriage trimmers | 1 | Lumbermen (1) | 5 | Stavemakers | 1 |
| Carpenters (1) | 33 | Machinists | 5 | Stovemounters | 1 |
| Cigar makers (1) | 6 | Mail clerk (1) | 1 | Students | 5 |
| Clerks (3) | 35 | Manicure | 1 | Tailors | 8 |
| Conductors | 1 | Masons | 10 | Tanners | 3 |
| Contractors (1) | 2 | Mechanics | 14 | Teachers | 5 |
| Cooks (1) | 1 | Merchants (1) | 24 | Teamsters (1) | 7 |
| Coopers | 7 | Millers | 3 | Tinners | 2 |
| Cutters | 1 | Milliners (1) | 2 | Tobacco dealers (1) | 1 |
| Dentists | 1 | Miners | 5 | Trunk makers (1) | 1 |
| Domestics | 9 | Ministers | 1 | Unemployed (7) | 54 |
| Draymen | 5 | Mill owners | 1 | Unspecified (14) | 159 |
| Druggists | 5 | Miscellaneous | 11 | Upholsterers | 1 |
| Engineers | 5 | Musicians | 4 | Waiters | 1 |
| Farmers (31) | 444 | Painters (2) | 10 | Weavers | 3 |
| Farmers' wives (1) | 7 | Peddlers | 5 | | |
| Total number for 1892, 107; for nineteen years, 1874–92 | | | | | 1,493 |

**Table 85** (B).—*Nativity of persons who were reported as suicides in the year 1892, and total for the nineteen years, 1874-92, inclusive. (The numbers for they ear 1892 are in parentheses.)*

| Nativity. | No. | Nativity. | No. | Nativity. | No. |
|---|---|---|---|---|---|
| Austria (1) | 3 | Italy | 1 | Poland | 3 |
| Bohemia | 1 | Kentucky | 1 | Prussia | 11 |
| Canada (4) | 92 | Maine | 3 | Rhode Island | 1 |
| Colorado | 1 | Massachusetts (1) | 8 | Russia (1) | 2 |
| Connecticut | 6 | Michigan (32) | 964 | Scotland (1) | 17 |
| Delaware | 1 | Minnesota | 1 | Sweden (3) | 15 |
| Denmark | 3 | New Hampshire | 4 | Switzerland | 3 |
| England (4) | 72 | New Jersey | 8 | Texas | 1 |
| Europe (2) | 2 | New York (18) | 255 | United States | 2 |
| France | 6 | North Carolina | 1 | Unknown (10) | 112 |
| Germany (17) | 272 | Norway | 1 | Vermont (1) | 16 |
| Holland (1) | 21 | Nova Scotia | 2 | Virginia | 2 |
| Illinois (1) | 6 | Ohio (3) | 73 | Wisconsin (1) | 11 |
| Indiana (1) | 12 | Pennsylvania (2) | 33 | Zealand | 2 |
| Ireland (3) | 42 | | | | |
| Total number for 1892, 107; for nineteen years, 1874-92 | | | | | 1,493 |

**Table 85** (C).—*Means of death employed by suicides in 1892, and in the nineteen years, 1874-92, inclusive. (The numbers for the year 1892 are in parentheses.)*

| Means used. | No. | Means used. | No. | Means used. | No. |
|---|---|---|---|---|---|
| Burning | 1 | Jumping from window (1) | 1 | Starving | 1 |
| Cutting throat | 27 | Poison (12) | 206 | Strangulation | 2 |
| Drowning (7) | 78 | Run over by cars | 2 | Unspecified (70) | 833 |
| Dynamite | 1 | Severing artery | 3 | Wounds | 8 |
| Hanging (9) | 196 | Shooting (8) | 129 | | |
| Total number for 1892, 107; for nineteen years, 1874-92 | | | | | 1,493 |

### OLD CLASSIFIED AND ALPHABETICAL TABLES OF CAUSES OF DEATH.

For reasons stated on preceding pages of this report, the older classification of Dr. Farr, which was employed in these reports for the systematic statement of causes of deaths by counties, has been abandoned in favor of a simpler arrangement (see Table 70). Tables 86 to 89, following, summarize the principal results of registration for 1892, arranged according to the old classification, and may be compared with the corresponding tables given in previous reports. In Table 89 the deaths returned and death-rates per 100,000 population for each disease, order and class of the old "Nosological Arrangement" are given for 1892, 1891 and for the previous years of registration from 1871 to 1890 by means of quinquennial averages. This table is based upon Table 75 of the registration report for 1891, and while that table correctly represents the *final results* of compilation as stated in each year under the old system, there are certain discrepancies between it and a table based upon the "Alphabetical Lists," as is Table 71 in the present report. The latter is believed to be more satisfactory and generally reliable in cases of difference.

**Table 86.**—*Number of deaths returned from all causes, from each class of causes, and the per cent of deaths from each class, to deaths from all causes, for the years 1890-92; average for ten years, 1882-91.*

| Causes of death—Classes. | 1890. | | 1891. | | 1892. | | Average for 10 years, 1882-91. | |
|---|---|---|---|---|---|---|---|---|
| | Number. | Per cent of total. | Number. | Per cent of total. | Number. | Per cent of total. | Number. | Per cent of total. |
| All causes | 21,642 | 100.0 | 22,079 | 100.0 | 21,729 | 100.0 | 19,150 | 100.0 |
| I.—Zymotic diseases | 5,627 | 26.0 | 5,929 | 26.9 | 5,369 | 24.7 | 4,825 | 25.2 |
| II.—Constitutional diseases | 3,406 | 15.7 | 3,390 | 15.4 | 3,408 | 15.7 | 3,090 | 16.1 |
| III.—Local diseases | 6,757 | 31.2 | 7,016 | 31.8 | 6,971 | 32.1 | 5,901 | 30.8 |
| IV.—Developmental diseases | 3,149 | 14.5 | 2,876 | 13.0 | 2,770 | 12.7 | 2,993 | 15.6 |
| V.—Violent deaths | 1,075 | 5.0 | 993 | 4.5 | 1,144 | 5.3 | 969 | 5.1 |
| Unknown and unclassified | 1,628 | 7.5 | 1,875 | 8.5 | 2,067 | 9.5 | 1,374 | 7.2 |

**Table 87.**—*By months, the number of deaths returned in Michigan from all causes and from each class of causes during the year 1892.*

| Causes of death—Classes. | Year 1892. | Months of death, 1892. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Unk. |
| All causes | 21,729 | 2,152 | 1,687 | 1,734 | 1,879 | 1,700 | 1,481 | 1,678 | 1,942 | 1,802 | 1,892 | 1,788 | 1,949 | 45 |
| I.—Zymotic diseases | 5,369 | 608 | 447 | 382 | 405 | 353 | 294 | 417 | 579 | 530 | 506 | 426 | 419 | 9 |
| II.—Constitutional diseases | 3,408 | 259 | 243 | 262 | 295 | 317 | 305 | 267 | 306 | 270 | 303 | 275 | 302 | 4 |
| III.—Local diseases | 6,971 | 803 | 589 | 594 | 662 | 577 | 437 | 480 | 505 | 515 | 575 | 563 | 665 | 6 |
| IV.—Developmental diseases | 2,770 | 245 | 215 | 225 | 259 | 209 | 199 | 225 | 286 | 209 | 235 | 233 | 274 | 6 |
| V.—Violent deaths | 1,144 | 67 | 47 | 87 | 98 | 86 | 101 | 132 | 109 | 88 | 105 | 114 | 101 | 3 |
| Unknown and unclassified | 2,067 | 170 | 146 | 184 | 160 | 158 | 145 | 151 | 207 | 190 | 174 | 177 | 188 | 17 |

Table 90 is the old "Alphabetical List" of diseases (with some minor modifications), and its facts with reference to sex of decedents from specified causes as distributed by months of death and period of age are supplementary to one of the principal tables of this report (Table 69). Certain minor causes of death may also be found in the list that are not included in the more condensed form of Table 69. The great difficulty in reference to this table is that cognate causes of death may be widely separated by the arbitrary alphabetical arrangement, and that in consequence a person consulting this table for the total number of deaths from any cause or group of causes may not obtain the correct number except at the expense of very tedious examination. This was especially true of deaths from accidents and violence previous to the present report; as seen on page 236, such deaths are grouped together so that a correct idea of the total number can be obtained. The lack of identity in the diseases included under the same terms in Tables 86-89 and Table 90 has been already alluded to (see page 103), and both of these old arrangements differ from the uniform statistical arrangement adopted in the body of this report (Tables 69 to 71). It should be mentioned that the sub-titles included in the terms of Tables 69 to 71, and mentioned in the discussion beginning on page 188, always refer to Table 90, and that Table 71, showing the results of registration for previous years, was based upon the corresponding tables as printed in the reports for 1873, 1879, 1885 and 1891.

**Table 88.**—*Exhibiting by geographical divisions, the number of deaths, the per cent of deaths in 1892 to estimated population in 1892, the per cent of deaths for each division to total deaths for the State, and the per cent of deaths from each class of causes to deaths from all causes.*

| State and geographical divisions. | Estimated population in 1892. | Deaths reported, 1892. | | Rate per 1,000 of deaths to estimated population, 1892. | Per cent of deaths from each class of causes to deaths from all causes by geographical divisions. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Number. | Per cent of total. | | Class I.—Zymotic diseases. | Class II.—Constitutional diseases. | Class III.—Local diseases. | Class IV. Developmental diseases. | Class V.—Violent deaths. | Unknown and unclassified. |
| State | 2,185,279 | 21,729 | 100.0 | 9.9 | 24.7 | 15.7 | 32.1 | 12.7 | 5.3 | 9.5 |
| Upper Peninsular | 199,774 | 2,457 | 11.4 | 12.4 | 27.8 | 9.2 | 21.6 | 11.3 | 9.1 | 20.9 |
| Northwestern | 67,728 | 538 | 2.5 | 7.9 | 16.7 | 15.2 | 33.8 | 12.8 | 5.6 | 15.8 |
| Northern | 57,965 | 440 | 2.0 | 7.6 | 25.2 | 13.4 | 31.1 | 10.9 | 7.5 | 11.8 |
| Northeastern | 54,997 | 444 | 2.0 | 8.1 | 23.6 | 8.8 | 26.4 | 12.2 | 5.6 | 23.9 |
| Western | 258,699 | 2,503 | 11.5 | 9.7 | 26.0 | 16.6 | 31.1 | 14.9 | 4.2 | 7.2 |
| North-central | 98,711 | 550 | 2.5 | 6.2 | 22.5 | 13.6 | 31.6 | 10.5 | 8.4 | 11.3 |
| Eastern | 334,056 | 3,235 | 14.9 | 9.7 | 26.2 | 15.1 | 29.2 | 14.4 | 5.7 | 9.5 |
| Central | 307,318 | 2,530 | 11.6 | 8.2 | 19.4 | 17.5 | 38.8 | 12.0 | 5.1 | 7.2 |
| Southwestern | 132,604 | 1,131 | 5.2 | 8.5 | 23.9 | 17.0 | 33.8 | 15.0 | 4.7 | 5.7 |
| South-central | 303,064 | 3,073 | 14.1 | 10.1 | 18.8 | 20.1 | 40.7 | 12.3 | 3.2 | 4.9 |
| Southeastern | 330,353 | 4,795 | 22.1 | 12.6 | 29.6 | 13.8 | 32.2 | 11.9 | 4.5 | 6.0 |

**Table 89.**—*Deaths in Michigan from classified causes during the year 1892, compared with the year 1891, and with averages for the five-year periods, 1871-75, 1876-80, 1881-85, 1886-90; also death-rates per 100,000 estimated population.*

| Causes of death. | Year 1892. | Year 1891. | Average, 5 years, 1886-90. | Average, 5 years, 1881-85. | Average, 5 years, 1876-80. | Average, 5 years, 1871-75. | Rates per 100,000 population. 1892. | 1891. | 1886-90. | 1881-85. | 1876-80. | 1871-75. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All causes | 21,729 | 22,079 | 20,279 | 17,454 | 13,754 | 12,369 | 994.3 | 1031.9 | 1012.5 | 988.8 | 889.5 | 987.1 |
| Specified causes | 19,814 | 20,311 | 19,025 | 16,155 | 12,398 | 10,986 | 906.7 | 949.3 | 949.9 | 910.6 | 801.8 | 882.4 |
| Causes not specified | 1,915 | 1,768 | 1,254 | 1,299 | 1,356 | 1,381 | 87.6 | 82.6 | 62.6 | 78.2 | 87.7 | 104.7 |
| CLASSES. | | | | | | | | | | | | |
| I.—Zymotic | 5,369 | 5,929 | 4,981 | 4,841 | 3,707 | 3,425 | 245.7 | 277.1 | 248.8 | 272.9 | 239.7 | 259.4 |
| II.—Constitutional | 3,408 | 3,390 | 3,221 | 2,827 | 2,396 | 2,102 | 156.0 | 158.4 | 160.8 | 159.4 | 154.9 | 159.2 |
| III.—Local | 6,971 | 7,016 | 6,356 | 5,045 | 3,809 | 3,642 | 319.0 | 327.9 | 317.3 | 284.4 | 246.3 | 276.0 |
| IV.—Developmental | 2,770 | 2,876 | 3,348 | 2,467 | 1,695 | 1,167 | 126.8 | 134.4 | 167.0 | 139.0 | 109.6 | 88.4 |
| V.—Violence | 1,144 | 993 | 1,037 | 898 | 733 | 613 | 52.4 | 46 4 | 51.8 | 50.6 | 47.4 | 46.4 |
| Unclassified | 152 | 107 | 82 | 77 | 59 | 39 | 7.0 | 5.0 | 4.1 | 4.4 | 3.8 | 3.0 |
| ORDERS. | | | | | | | | | | | | |
| I.—1. Miasmatic | 5,298 | 5,855 | 4,939 | 4,799 | 3,665 | 3,373 | 242.4 | 273.6 | 246.6 | 270.5 | 237.0 | 255.5 |
| 2. Enthetic | 19 | 9 | 10 | 13 | 11 | 8 | .9 | .4 | .5 | .7 | .7 | .6 |
| 3. Dietic | 35 | 51 | 22 | 19 | 18 | 27 | 1.6 | 2.4 | 1.1 | 1.1 | 1.2 | 2.0 |
| 4. Parasitic | 17 | 14 | 10 | 11 | 13 | 17 | .8 | .7 | .5 | .6 | .8 | 1.3 |
| II.—1. Diathetic | 1,127 | 1,155 | 895 | 707 | 622 | 601 | 51.6 | 53.9 | 44.7 | 39.9 | 40.2 | 45.5 |
| 2. Tubercular | 2,281 | 2,235 | 2,326 | 2,120 | 1,774 | 1,502 | 104.4 | 104.5 | 116.1 | 119.5 | 114.7 | 113.8 |
| III.—1. Nervous | 2,271 | 2,334 | 2,163 | 1,859 | 1,442 | 1,505 | 103.9 | 109.1 | 107.9 | 104.8 | 93.2 | 114.0 |
| 2. Circulatory | 1,347 | 1,351 | 1,042 | 732 | 478 | 372 | 61.6 | 63.1 | 52.0 | 41.3 | 30.9 | 28.3 |
| 3. Respiratory | 1,753 | 1,695 | 1,592 | 1,214 | 1,000 | 1,013 | 80.2 | 79.2 | 79.5 | 68.4 | 64.7 | 76.7 |
| 4. Digestive | 923 | 1,027 | 945 | 771 | 595 | 546 | 42.2 | 48.0 | 47.2 | 43.5 | 38.4 | 41.4 |
| 5. Urinary | 561 | 516 | 443 | 336 | 186 | 129 | 25.7 | 24.1 | 22.1 | 18.9 | 12.1 | 9.8 |
| 6. Generative | 21 | 22 | 20 | 22 | 20 | 17 | 1.0 | 1.0 | 1.1 | 1.3 | 1.3 | 1.3 |
| 7. Locomotor | 13 | 14 | 11 | 12 | 11 | 5 | .6 | .7 | .5 | .7 | 7. | .4 |
| 8. Integumentary | 82 | 57 | 139 | 98 | 75 | 54 | 3.8 | 2.7 | 6.9 | 5.5 | 4.9 | 4.1 |
| IV.—1. Children* | 1,219 | 1,284 | 1,833 | 1,231 | 861 | 545 | 55.8 | 60.0 | 91.5 | 69.4 | 55.7 | 41.3 |
| 2. Women* | 249 | 263 | 242 | 233 | 192 | 222 | 11.4 | 12.3 | 12.1 | 13.1 | 12.4 | 16.8 |
| 3. Old people* | 1,079 | 1,014 | 980 | 733 | 557 | 400 | 49.4 | 47.4 | 48.9 | 41.3 | 36.0 | 30.3 |
| 4. Nutrition | 223 | 315 | 293 | 269 | 85 | ..... | 10.2 | 14.7 | 14.6 | 15.2 | 5.5 | ..... |
| V.—1. Accident | 1,020 | 899 | 915 | 797 | 659 | 557 | 46.7 | 42.0 | 45.7 | 44.9 | 42.6 | 42.2 |
| 2. Homicide | 17 | 15 | 24 | 20 | 12 | 13 | .8 | .7 | 1.2 | 1.1 | .8 | .9 |
| 3. Suicide | 107 | 79 | 98 | 81 | 62 | 44 | 4.9 | 3.7 | 4.9 | 4.6 | 4.0 | 3.3 |

* I. e., developmental diseases of children, women and old people.

**Table 89.**—CONTINUED.—*Deaths and death-rates, five-year periods.*

| Causes of death. | Year 1892. | Year 1891. | Average, 5 years, 1886-90. | Average, 5 years, 1881-85. | Average, 5 years, 1876-80. | Average, 5 years, 1871-75. | Rates per 100,000 population. 1892. | 1891. | 1886-90. | 1881-85. | 1876-80. | 1871-75. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CLASS I.—ZYMOTIC | 5,369 | 5,929 | 4,981 | 4,841 | 3,707 | 3,425 | 245.7 | 277.1 | 248.8 | 272.9 | 239.7 | 259.4 |
| I.—*Order 1. Miasmatic* | 5,298 | 5,853 | 4,939 | 4,799 | 3,665 | 3,373 | 242.4 | 273.6 | 246.6 | 270.5 | 237.0 | 255.5 |
| 1. Small-pox | 1 | 1 | 3 | 39 | 39 | 102 | .0 | .0 | .1 | 2.2 | 2.5 | 7.7 |
| 1. Chicken-pox | 4 | 4 | 2 | 2 | 1 | 2 | .2 | .2 | .1 | .1 | .1 | .2 |
| 2. Measles | 72 | 225 | 232 | 169 | 98 | 138 | 3.3 | 10.5 | 11.6 | 9.5 | 6.3 | 10.5 |
| 3. Scarlet fever | 442 | 400 | 284 | 444 | 404 | 541 | 20.2 | 18.7 | 14.2 | 25.1 | 26.1 | 41.0 |
| 4. Diphtheria | 1,020 | 1,060 | 977 | 1,321 | 961 | 192 | 46.7 | 49.5 | 48.8 | 74.5 | 62.2 | 14.5 |
| 5. Quinsy | 24 | 25 | 14 | 16 | 9 | 9 | 1.1 | 1.2 | .7 | .9 | .6 | .7 |
| 6. Croup * | 291 | 288 | 429 | 345 | 236 | 159 | 13.3 | 13.4 | 21.4 | 19.4 | 15.3 | 12.1 |
| 7. Whooping-cough | 147 | 158 | 137 | 124 | 174 | 144 | 6.7 | 7.4 | 6.8 | 7.0 | 11.3 | 10.9 |
| 8. Typhoid fever | 626 | 684 | 603 | 541 | 428 | 543 | 28.6 | 31.9 | 30.1 | 30.5 | 27.7 | 41.1 |
| 8. Typhus fever | 6 | 7 | 6 | 9 | 17 | 21 | .3 | .3 | .3 | .5 | 1.1 | 1.6 |
| 8. Typho-malarial fever | 23 | 16 | 36 | 26 | 7 | 1 | 1.1 | .7 | 1.8 | 1.5 | .4 | .0 |
| 9. Erysipelas | 64 | 66 | 63 | 78 | 82 | 121 | 2.9 | 3.1 | 3.1 | 4.4 | 5.3 | 9.2 |
| 9. Septicæmia | 161 | 172 | 149 | 92 | 8 | 3 | 7.6 | 8.0 | 7.4 | 5.2 | .5 | .2 |
| 10. Puerperal fever | 42 | 35 | 32 | 39 | 30 | 41 | 1.9 | 1.6 | 1.6 | 2.2 | 1.9 | 3.1 |
| 11. Carbuncle | 3 | 4 | 3 | 4 | 2 | 1 | .1 | .2 | .1 | .2 | .1 | .0 |
| 12. Influenza | 907 | 1,076 | 258 | 8 | 7 | 8 | 41.5 | 50.3 | 12.9 | .5 | .5 | .6 |
| 13. Dysentery | 74 | 89 | 156 | 149 | 178 | 283 | 3.4 | 4.1 | 7.8 | 8.4 | 11.2 | 21.4 |
| 14. Diarrhea | 275 | 292 | 388 | 339 | 263 | 343 | 12.6 | 13.7 | 19.4 | 19.1 | 17.0 | 26.0 |
| 15. Cholera infantum | 608 | 799 | 672 | 578 | 349 | 279 | 27.8 | 37.3 | 33.6 | 32.6 | 22.6 | 21.1 |
| 16. Cholera morbus | 43 | 45 | 47 | 44 | 29 | 24 | 1.9 | 2.1 | 2.3 | 2.5 | 1.9 | 1.8 |
| 16. Cholera | 34 | 31 | 5 | 7 | 13 | 9 | 1.6 | 1.5 | .2 | .4 | .8 | .7 |
| 17. Ague | 141 | 132 | 174 | 179 | 124 | 158 | 6.5 | 6.2 | 8.7 | 10.1 | 8.0 | 12.0 |
| 18. Remittent fever | 133 | 105 | 123 | 127 | 141 | 183 | 6.1 | 4.9 | 6.1 | 7.2 | 9.1 | 13.9 |
| 19. Rheumatism | 149 | 141 | 147 | 117 | 73 | 71 | 6.8 | 6.6 | 7.3 | 6.6 | 4.7 | 5.4 |
| 20. Measles, German | 2 | ..... | ..... | ..... | ..... | ..... | .1 | ..... | ..... | ..... | ..... | ..... |
| I.—*Order 2. Enthetic* | 19 | 9 | 10 | 13 | 11 | 8 | .9 | .4 | .5 | .7 | .7 | .6 |
| 1. Syphilis | 11 | 6 | 8 | 10 | 9 | 6 | .5 | .3 | .4 | .6 | .6 | .5 |
| 2. Stricture | 7 | 1 | 2 | 2 | 1 | 2 | .3 | .0 | .1 | .1 | .0 | .1 |
| 3. Hydrophobia | ..... | 2 | 1 | 1 | ..... | ..... | ..... | .1 | .0 | .0 | ..... | ..... |
| 4. Glanders | 1 | ..... | ..... | ..... | ..... | ..... | .0 | ..... | ..... | ..... | ..... | ..... |
| I.—*Order 3. Dietic* | 35 | 51 | 22 | 19 | 18 | 27 | 1.6 | 2.4 | 1.1 | 1.1 | 1.2 | 2.0 |
| 1. Privation | ..... | 20 | ..... | ..... | ..... | 1 | ..... | .9 | ..... | ..... | ..... | .0 |
| 2. Purpura | ..... | ..... | ..... | ..... | 1 | 1 | ..... | ..... | ..... | ..... | .0 | .0 |
| 2. Rachitis | 1 | 2 | 2 | 2 | 1 | 1 | .0 | .1 | .1 | .1 | .0 | .0 |
| 2. Scurvey | ..... | 2 | ..... | ..... | 1 | 1 | ..... | .1 | ..... | ..... | .0 | .0 |

* *Includes membranous croup.*

**Table 89.—CONTINUED.—*Deaths and death-rates, five-year periods.***

| Causes of death. | Year 1892. | Year 1891. | Average, 5 years, 1886-90. | Average, 5 years, 1881-85. | Average, 5 years, 1876-80. | Average, 5 years, 1871-75. | Rates per 100,000 population. 1892. | 1891. | 1886-90. | 1881-85. | 1876-80. | 1871-75. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I.—*Order 3. Dietic.*—Con. | | | | | | | | | | | | |
| 3. Intemperance | 84 | 27 | 19 | 17 | 15 | 24 | 1.6 | 1.3 | .9 | 1.0 | .9 | 1.8 |
| 4. Opium eating | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| I.—*Order 4. Parasitic* | 17 | 14 | 10 | 11 | 13 | 17 | .8 | .7 | .5 | .6 | .8 | 1.3 |
| 1. Thrush | 9 | 8 | 4 | 6 | 5 | 9 | .4 | .4 | .2 | .3 | .3 | .7 |
| 2. Worms | 8 | 5 | 6 | 5 | 8 | 8 | .4 | .2 | .3 | .3 | .5 | .6 |
| 3. Disease of scalp | ..... | 1 | ..... | ..... | ..... | ..... | ..... | .0 | ..... | ..... | ..... | ..... |
| CLASS II.—CONSTITUTIONAL | 3,408 | 3,390 | 3,221 | 2,829 | 2,396 | 2,102 | 156.0 | 158.0 | 160.8 | 159.4 | 154.9 | 159.2 |
| II.—*Order 1. Diathetic* | 1,127 | 1,155 | 895 | 707 | 622 | 601 | 51.6 | 54.0 | 44.7 | 39.8 | 40.2 | 45.5 |
| 1. Gout | ..... | 2 | ..... | 1 | ..... | ... | ..... | .1 | ..... | .0 | ..... | ..... |
| 2. Anæmia | 8 | 8 | 5 | 3 | 63 | 138 | .4 | .4 | .2 | .2 | 4.1 | 10.5 |
| 2. Dropsy | 389 | 397 | 378 | 310 | 249 | 247 | 17.8 | 18.6 | 18.9 | 17.5 | 16.1 | 18.7 |
| 3. Cancer | 558 | 534 | 470 | 352 | 267 | 161 | 25.5 | 25.0 | 23.4 | 19.8 | 17.3 | 12.2 |
| 3. Tumor* | 139 | 157 | *103* | 77 | *54* | *36* | 6.4 | 7.3 | *5.1* | *4.3* | *3.5* | 2.7 |
| 4. Noma (canker) | 13 | 28 | 24 | 29 | 28 | 42 | .6 | 1.3 | 1.2 | 1.6 | 1.8 | 3.2 |
| 5. Gangrene | 20 | 29 | 18 | 13 | 13 | 13 | .9 | 1.3 | .9 | .7 | .8 | .9 |
| II.—*Order 2. Tubercular* | 2,281 | 2,235 | 2,326 | 2,120 | 1,774 | 1,502 | 104.4 | 104.5 | 116.1 | 119.5 | 114.7 | 113.8 |
| 1. Scrofula | 18 | 17 | 28 | 31 | 33 | 40 | .8 | .8 | 1.4 | 1.7 | 2.1 | 3.0 |
| 2. Consumption of bowels | 37 | 23 | 26 | 29 | 21 | 18 | 1.7 | 1.1 | 1.3 | 1.6 | 1.4 | 1.4 |
| 3. Phthisis (consumption of lungs) | 2,111 | 2,096 | 2,224 | 2,009 | 1,701 | 1,431 | 96.6 | 97.9 | 111.0 | 113.3 | 110.0 | 108.4 |
| 4. Hydrocephalus | 6 | 9 | 9 | 9 | 7 | 8 | .3 | .4 | .4 | .5 | .5 | .6 |
| 5. Marasmus | 109 | 90 | 40 | 41 | 12 | 5 | 5.0 | 4.2 | 2.0 | 2.3 | .8 | .4 |
| CLASS III.—LOCAL | 6,971 | 7,016 | 6,356 | 5,045 | 3,809 | 3,642 | 319.0 | 327.8 | 317.3 | 284.4 | 246.3 | 276.0 |
| III.—*Order 1. Nervous* | 2,271 | 2,334 | 2,163 | 1,859 | 1,442 | 1,505 | 103.9 | 109.1 | 107.9 | 105.8 | 93.2 | 114.0 |
| 1. Cephalitis | 292 | 315 | 343 | 308 | 264 | 275 | 13.4 | 14.7 | 17.1 | 17.4 | 17.1 | 20.8 |
| 2. Apoplexy | 220 | 213 | 146 | 106 | 102 | 76 | 10.1 | 10.0 | 7.3 | 5.9 | 6.6 | 5.8 |
| 3. Paralysis | 587 | 596 | 539 | 365 | 261 | 165 | 26.9 | 27.9 | 26.9 | 20.6 | 16.9 | 12.5 |
| 4. Insanity | 53 | 39 | 29 | 19 | 17 | 16 | 2.4 | 1.8 | 1.5 | 1.1 | 1.1 | 1.2 |
| 5. Chorea | 8 | 3 | 2 | 5 | 2 | 3 | .4 | .1 | .1 | .3 | .1 | .2 |
| 6. Epilepsy | 62 | 42 | 52 | 50 | 36 | 30 | 2.8 | 1.9 | 2.6 | 2.8 | 2.3 | 2.3 |
| 7. Tetanus | 9 | 12 | 7 | 7 | 5 | 4 | .4 | .6 | .3 | .4 | .3 | .3 |
| 8. Convulsions | 548 | 547 | 445 | 385 | 297 | 277 | 25.1 | 25.8 | 22.2 | 21.7 | 19.2 | 20.9 |
| 9. Brain diseases | 164 | 203 | 380 | 335 | 252 | 208 | 7.5 | 9.5 | 19.0 | 18.9 | 16.3 | 15.8 |
| 9. Dropsy of brain | 28 | 18 | 37 | 39 | 47 | 50 | 1.3 | .8 | 1.8 | 2.2 | 3.0 | 3.8 |

* Ovarian tumors included under tumor.

**Table 89.—CONTINUED.—*Deaths and death-rates, five-year periods.***

| Causes of death. | Year 1892. | Year 1891. | Average, 5 years, 1886-90. | Average, 5 years, 1881-85. | Average, 5 years, 1876-80. | Average, 5 years, 1871-75. | Rates per 100,000 population. 1892. | 1891. | 1886-90. | 1881-85. | 1876-80. | 1871-75. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| III.—*Order 1. Nervous.*—Con. | | | | | | | | | | | | |
| 10. Spinal fever | 32 | 45 | 71 | 104 | 65 | 141 | 1.5 | 2.1 | 3.5 | 5.9 | 4.2 | 10.7 |
| 11. Spotted fever | ..... | ..... | 1 | 4 | 1 | 37 | ..... | ..... | .0 | .2 | .0 | 2.8 |
| 12. Meningitis | 46 | 60 | 31 | 21 | 12 | 8 | 2.1 | 2.8 | 1.5 | 1.2 | .8 | .6 |
| 13. Meningitis, Cerebro-spinal | 7 | 12 | 7 | 20 | 9 | 58 | .3 | .6 | .3 | 1.1 | .6 | 4.4 |
| 14. Meningitis, Spinal | 63 | 84 | 69 | 89 | 37 | 61 | 2.9 | 3.9 | 3.5 | 5.0 | 2.4 | 4.6 |
| 15. Neuralgia | 8 | ..... | ..... | ..... | 2 | 6 | .4 | ..... | ..... | ..... | .1 | .5 |
| 16. Spine disease | 94 | 107 | 1 | ..... | 31 | 90 | 4.3 | 5.0 | .0 | ..... | 2.0 | 6.8 |
| 17. Spine, Inflammation of | ..... | ..... | 2 | 1 | 2 | 2 | ..... | ..... | .1 | .0 | .1 | .1 |
| 18. Disease of nerves | 50 | 38 | ..... | ..... | ..... | ..... | 2.3 | 1.8 | ..... | ..... | ..... | ..... |
| III.—*Order 2. Circulatory* | 1,347 | 1,351 | 1,042 | 732 | 478 | 372 | 61.6 | 63.1 | 52.0 | 41.3 | 30.9 | 28.2 |
| 1. Pericarditis | 97 | 70 | 82 | 78 | 69 | 63 | 4.4 | 3.3 | 4.1 | 4.4 | 4.5 | 4.8 |
| 2. Aneurism | 1 | 4 | 18 | 12 | 2 | 3 | .0 | .2 | .9 | .7 | .1 | .2 |
| 3. Heart disease | 881 | 902 | 942 | 641 | 409 | 307 | 40.3 | 42.2 | 47.0 | 36.1 | 26.4 | 23.3 |
| 3. "Heart failure" | 368 | 375 | ..... | ..... | ..... | ..... | 16.8 | 17.5 | ..... | ..... | ..... | ..... |
| III.—*Order 3. Respiratory* | 1,753 | 1,695 | 1,591 | 1,214 | 1,000 | 1,013 | 80.2 | 79.2 | 79.4 | 68.4 | 64.7 | 76.7 |
| 1. Epistaxis | ..... | ..... | 1 | 1 | 3 | 1 | ..... | ..... | .0 | .0 | .2 | .0 |
| 2. Laryngitis | 9 | 8 | 4 | 4 | 5 | 2 | .4 | .4 | .2 | .2 | .3 | .1 |
| 3. Bronchitis | 191 | 143 | 150 | 95 | 46 | 29 | 8.7 | 6.7 | 7.5 | 5.4 | 3.0 | 2.2 |
| 4. Pleurisy | 30 | 24 | 30 | 22 | 26 | 30 | 1.4 | 1.1 | 1.5 | 1.2 | 1.7 | 2.3 |
| 5. Pneumonia | 1,291 | 1,243 | 1,087 | 846 | 687 | 743 | 59.1 | 58.1 | 54.2 | 47.7 | 44.4 | 56.3 |
| 6. Asthma | 65 | 77 | 65 | 52 | 31 | 21 | 3.0 | 3.6 | 3.3 | 2.9 | 2.0 | 1.6 |
| 7. Lung disease | 158 | 183 | 237 | 183 | 192 | 185 | 7.2 | 8.5 | 11.8 | 10.3 | 12.4 | 14.0 |
| 8. Catarrh | 9 | 17 | 19 | 10 | 10 | 2 | .4 | .8 | .9 | .6 | .6 | .1 |
| III.—*Order 4. Digestive* | 923 | 1,027 | 944 | 771 | 595 | 546 | 42.2 | 48.0 | 47.1 | 43.5 | 38.4 | 41.4 |
| 1. Gastritis | 53 | 52 | 59 | 63 | 55 | 31 | 2.4 | 2.4 | 2.9 | 3.6 | 3.6 | 2.4 |
| 2. Enteritis | 334 | 355 | 345 | 317 | 240 | 227 | 15.3 | 16.6 | 17.2 | 17.9 | 15.5 | 17.2 |
| 3. Peritonitis | 89 | 116 | 52 | 21 | 11 | 12 | 4.1 | 5.4 | 2.6 | 1.1 | .7 | .9 |
| 4. Ascites | 5 | 6 | 3 | 3 | 4 | 6 | .2 | .3 | .1 | .2 | .3 | .5 |
| 5. Ulceration of intestines | 9 | 2 | 9 | 6 | 4 | 7 | .4 | .1 | .4 | .3 | .3 | .5 |
| 6. Hernia | 35 | 36 | 35 | 25 | 18 | 18 | 1.6 | 1.7 | 1.8 | 1.4 | 1.2 | 1.4 |
| 7. Obstruction of bowels | 26 | 21 | 10 | 9 | 7 | 6 | 1.2 | .9 | .5 | .5 | .4 | .3 |
| 8. Fistula | 1 | ..... | 2 | ..... | 1 | ..... | .0 | ..... | .1 | ..... | .0 | ..... |
| 9. Stomach diseases | 125 | 132 | 194 | 110 | 88 | 72 | 5.7 | 6.1 | 9.7 | 6.2 | 5.4 | 5.5 |
| 10. Pancreas disease | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

**Table 89.**—CONTINUED.—*Deaths and death-rates, five-year periods.*

| Causes of death. | Year 1892. | Year 1891. | Average, 5 years, 1886–90. | Average, 5 years, 1881–85. | Average, 5 years, 1876–80. | Average, 5 years, 1871–75. | Rates per 100,000 population. 1892. | 1891. | 1886–90. | 1881–85. | 1876–80. | 1871–75. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| III.—*Order 4. Digestive.*—Con. | | | | | | | | | | | | |
| 11. Hepatitis | 7 | ..... | 9 | 9 | 9 | 10 | .3 | ..... | .4 | .5 | .6 | .8 |
| 12. Biliary calculus | 6 | 6 | 2 | ..... | ..... | ..... | .3 | .3 | .1 | ..... | ..... | ..... |
| 12. Jaundice | 18 | 40 | 27 | 33 | 21 | 18 | .8 | 1.9 | 1.4 | 1.9 | 1.4 | 1.4 |
| 13. Liver disease | 90 | 121 | 118 | 105 | 98 | 94 | 4.1 | 5.7 | 5.6 | 5.9 | 6.3 | 7.1 |
| 14. Spleen disease | 5 | 4 | 4 | 3 | 4 | 4 | .2 | .2 | .2 | .2 | .3 | .3 |
| 15. Bowel diseases | 90 | 105 | 74 | 62 | 39 | 34 | 4.1 | 4.9 | 3.7 | 3.5 | 2.5 | 2.6 |
| 16. Mouth disease | 10 | 31 | 4 | 4 | ..... | 2 | .5 | 1.5 | .2 | .2 | ..... | .1 |
| 17. Throat disease | 20 | ..... | ..... | ..... | ..... | 5 | .9 | ..... | ..... | ..... | ..... | .4 |
| III.—*Order 5. Urinary* | 561 | 516 | 443 | 336 | 186 | 129 | 25.7 | 24.1 | 22.1 | 18.9 | 12.1 | 9.8 |
| 1. Nephritis | 12 | 14 | 21 | 14 | 13 | 14 | .5 | .7 | 1.0 | .8 | .8 | 1.1 |
| 2. Bright's disease of kidneys | 319 | 257 | 215 | 158 | 41 | 12 | 14.6 | 12.0 | 10.7 | 8.9 | 2.7 | .9 |
| 3. Diabetes | 69 | 78 | 67 | 55 | 35 | 33 | 3.2 | 3.7 | 3.4 | 3.1 | 2.3 | 2.5 |
| 4. Calculus | 11 | 12 | 12 | 15 | 24 | 23 | .5 | .5 | .6 | .8 | 1.6 | 1.7 |
| 5. Cystitis | 39 | 20 | 17 | 13 | 11 | 9 | 1.8 | .9 | .8 | .7 | .7 | .7 |
| 6. Kidney diseases | 111 | 135 | 111 | 82 | 62 | 38 | 5.1 | 6.3 | 5.6 | 4.6 | 4.0 | 2.9 |
| III.—*Order 6. Generative* | 21 | 22 | 20 | 22 | 20 | 17 | 1.0 | 1.0 | 1.0 | 1.2 | 1.3 | 1.3 |
| 1. Ovarian disease | 7 | 1 | ..... | .... | 1 | 1 | .3 | .0 | ..... | ..... | .0 | .0 |
| 1. Ovarian tumor | ..... | ..... | 6 | 9 | 8 | 2 | ..... | ..... | .3 | .5 | .5 | .1 |
| 2. Diseases of uterus | 14 | 18 | 15 | 13 | 11 | 13 | .6 | .8 | .7 | .7 | .7 | 1.0 |
| 3. Hydrocele | ..... | 1 | ..... | ..... | ..... | ..... | ..... | .0 | ..... | ..... | ..... | ..... |
| 4. Breast disease | ..... | 2 | ..... | ..... | ..... | ..... | ..... | .1 | ..... | ..... | ..... | ..... |
| III.—*Order 7. Locomotor* | 13 | 14 | 11 | 12 | 11 | 5 | .6 | .7 | .5 | .7 | .7 | .4 |
| 1. Arthritis | ..... | ..... | 2 | 2 | 1 | 1 | ..... | ..... | .1 | .1 | .0 | .0 |
| 2. Joint diseases | 13 | 14 | 9 | 10 | 11 | 5 | .6 | .7 | .4 | .5 | .7 | .4 |
| III.—*Order 8. Integumentary* | 82 | 57 | 140 | 100 | 75 | 54 | 3.8 | 2.6 | 7.0 | 5.6 | 4.9 | 4.1 |
| 1. Phlegmon | 73 | 48 | 50 | 35 | 31 | 23 | 3.3 | 2.2 | 2.5 | 1.9 | 2.0 | 1.7 |
| 2. Ulcer | ..... | 4 | 10 | 7 | 7 | 3 | ..... | .2 | .5 | .4 | .4 | .2 |
| 3. Skin diseases | 9 | 5 | 80 | 57 | 38 | 27 | .4 | .2 | 4.0 | 3.2 | 2.5 | 2.1 |
| CLASS IV.—DEVELOPMENTAL | 2,770 | 2,876 | 3,348 | 2,467 | 1,695 | 1,167 | 126.8 | 134.4 | 167.0 | 139.0 | 109.6 | 88.4 |
| IV.—*Order 1. Children* | 1,219 | 1,284 | 1,833 | 1,231 | 861 | 545 | 55.8 | 60.0 | 91.5 | 69.4 | 55.7 | 41.3 |
| 1. Still-born | 1,014 | 1,090 | 1,153 | 859 | 730 | 368 | 46.4 | 50.9 | 57.6 | 48.4 | 47.2 | 27.9 |
| 2. Infantile | 51 | 18 | 528 | 242 | 28 | 64 | 2.3 | .8 | 26.4 | 13.6 | 1.8 | 4.8 |
| 2. Premature birth | 78 | 97 | 55 | 50 | 34 | 17 | 3.6 | 4.5 | 2.7 | 2.8 | 2.2 | 1.3 |

**Table 89.—CONCLUDED.—*Deaths and death-rates, five-year periods.***

| Causes of death. | Year 1892. | Year 1891. | Average, 5 years, 1886-90. | Average, 5 years, 1881-85. | Average, 5 years, 1876-80. | Average, 5 years, 1871-75. | Rates per 100,000 population. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 1892. | 1891. | 1886-90. | 1881-85. | 1876-80. | 1871-75. |
| IV.—*Order 1. Children.*—Con. | | | | | | | | | | | | |
| 3. Cyanosis | 1 | 2 | 2 | 1 | 3 | ..... | .0 | .1 | .1 | .0 | .2 | ..... |
| 4. Spina bifida | ..... | 1 | 2 | 1 | ..... | 1 | ..... | .0 | .1 | .0 | ..... | .0 |
| 5. Other malformations | 6 | 7 | 8 | 9 | 6 | 6 | .3 | .3 | .4 | .5 | .4 | .5 |
| 6. Teething | 69 | 55 | 79 | 66 | 58 | 90 | 3.2 | 2.6 | 4.0 | 3.7 | 3.8 | 6.8 |
| 7. Injury at birth * | ..... | 14 | 5 | 2 | 1 | ..... | ..... | .7 | .2 | .1 | .0 | ..... |
| IV.—*Order 2. Women* | 249 | 263 | 242 | 238 | 192 | 222 | 11.4 | 12.3 | 12.1 | 13.1 | 12.4 | 16.8 |
| 1. Dysmenorrhea | ..... | ..... | ..... | ..... | 1 | 1 | ..... | ..... | ..... | ..... | .0 | .0 |
| 1. Turn of life | 5 | 6 | 7 | 6 | 5 | 3 | .2 | .3 | .3 | .3 | .3 | .2 |
| 2. Child-birth | 232 | 245 | 226 | 216 | 176 | 207 | 10.6 | 11.5 | 11.3 | 12.2 | 11.4 | 15.7 |
| 2. Abortion | 12 | 10 | 8 | 10 | 8 | 7 | .5 | .5 | .4 | .6 | .5 | .5 |
| 2. Uterine hemorrhage | ..... | 2 | 1 | 1 | 3 | 3 | ..... | .1 | .0 | .0 | .2 | .2 |
| IV.—*Order 3. Old people* | 1,079 | 1,014 | 980 | 733 | 557 | 400 | 49.4 | 47.4 | 48.9 | 41.3 | 36.0 | 30.* |
| 1. Old age | 1,079 | 1,014 | 980 | 733 | 557 | 400 | 49.4 | 47.4 | 48.9 | 41.3 | 36.0 | 30.3 |
| IV.—*Order 4. Nutrition* | 223 | 315 | 293 | 269 | 85 | ..... | 10.2 | 14.7 | 14.6 | 15.2 | 5.5 | ..... |
| 1. Atrophy and debility | 223 | 315 | 293 | 269 | 85 | ..... | 10.2 | 14.7 | 14.6 | 15.2 | 5.5 | ..... |
| CLASS V.—VIOLENT DEATHS. | 1,144 | 993 | 1,034 | 898 | 733 | 613 | 52.4 | 46.4 | 51.8 | 50.6 | 47.4 | 46.4 |
| V.—*Order 1. Accident* | 1,020 | 837 | 534 | 497 | 413 | 349 | 46.7 | 39.1 | 26.7 | 28.0 | 26.7 | 26.4 |
| 1. Fractures and contusions | ..... | 35 | 29 | 21 | 17 | 12 | ..... | 1.6 | 1.5 | 1.2 | 1.1 | .9 |
| 2. Wounds | ..... | 2 | 27 | 27 | 17 | 18 | ..... | .1 | 1.3 | 1.5 | 1.1 | 1.4 |
| 3. Burns and scalds | 94 | 69 | 67 | 87 | 64 | 70 | 4.3 | 3.2 | 3.3 | 4.9 | 4.1 | 5.3 |
| 4. Poison | 37 | 31 | 32 | 36 | 31 | 26 | 1.7 | 1.5 | 1.6 | 2.0 | 2.0 | 1.9 |
| 5. Drowning | 164 | 146 | 154 | 141 | 140 | 102 | 7.5 | 6.8 | 7.7 | 7.9 | 9.0 | 7.7 |
| 6. Suffocation | 27 | 23 | 28 | 24 | 22 | 16 | 1.2 | 1.1 | 1.4 | 1.4 | 1.4 | 1.2 |
| 7. Railroad accidents | 74 | 86 | 91 | 78 | 41 | 39 | 3.4 | 4.0 | 4.5 | 4.4 | 2.7 | 3.0 |
| 8. Other casualties | 624 | 507 | 485 | 385 | 328 | 274 | 28.6 | 23.7 | 24.2 | 21.6 | 21.2 | 20.8 |
| V.—*Order 2. Homicide* | 17 | 15 | 24 | 20 | 12 | 13 | .8 | .7 | 1.2 | 1.1 | .7 | .9 |
| V.—*Order 3. Suicide* | 107 | 79 | 98 | 81 | 62 | 44 | 4.9 | 3.7 | 4.9 | 4.6 | 4.0 | 3.3 |
| Unclassified | 152 | 107 | 82 | 77 | 59 | 39 | 7.0 | 5.0 | 4.1 | 4.3 | 3.8 | 3.0 |
| Causes unknown | 1,915 | 1,768 | 1,254 | 1,299 | 1,356 | 1,381 | 87.6 | 82.6 | 62.6 | 73.2 | 87.7 | 104.7 |

* 10 cases in 1892; see Table 82 and p. 222.

**Table 90.** *Exhibiting by sex, by months, by specified causes in alphabetical order, and by ages in periods of years, the number of deaths returned for the year 1892; also, by sex and specified causes, the number of deaths returned for each of the years 1887–92, inclusive.* (*Still-births included.*)

| Sex. | Months, 1892. | | | | | | | | | | | | | Years, 1887-92. | | | | | | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total..... | 2152 | 1687 | 1781 | 1879 | 1700 | 1481 | 1678 | 1942 | 1802 | 1892 | 1788 | 1949 | 45 | 21729 | 22079 | 21642 | 20315 | 21764 | 19482 | 7295 | 967 | 526 | 770 | 949 | 890 | 808 | 725 | 628 | 723 | 726 | 819 | 942 | 1074 | 1126 | 1006 | 1330 | 425 |
| Males..... | 1148 | 906 | 944 | 997 | 909 | 817 | 962 | 1059 | 999 | 1033 | 990 | 1051 | 22 | 11837 | 11908 | 11801 | 10984 | 11722 | 10563 | 4096 | 532 | 270 | 367 | 466 | 413 | 407 | 356 | 314 | 393 | 415 | 471 | 510 | 604 | 658 | 592 | 732 | 241 |
| Females... | 990 | 777 | 786 | 873 | 788 | 657 | 710 | 879 | 797 | 854 | 785 | 891 | 22 | 9809 | 9998 | 9771 | 9297 | 10024 | 8877 | 3146 | 435 | 256 | 403 | 483 | 477 | 401 | 369 | 314 | 330 | 311 | 348 | 432 | 470 | 468 | 414 | 598 | 154 |
| Unknown. | 14 | 4 | 4 | 9 | 3 | 7 | 6 | 4 | 6 | 5 | 13 | 7 | 1 | 83 | 173 | 70 | 34 | 18 | 42 | 53 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 30 |

**Table 90.—CONTINUED.—*Causes of death—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total | | 1 | 1 | 2 | 1 | 1 | 1 | 1 | | 2 | 1 | | | 11 | 12 | 10 | 7 | 14 | 17 | Bladder, Calculus of | | | 1 | | | | | 1 | 1 | | | 2 | 1 | 2 | 2 | 1 | |
| Males | | 1 | 1 | 2 | 1 | 1 | 1 | 1 | | 2 | 1 | | | 11 | 11 | 9 | 4 | 13 | 16 | " " | | | 1 | | | | | 1 | 1 | | | 2 | 1 | 2 | 2 | 1 | |
| Females | | | | | | | | | | | | | | | 1 | 1 | 3 | 1 | 1 | " " | | | | | | | | | | | | | | | | | |
| Males | | 2 | 1 | | | 1 | | | | 2 | 1 | 2 | | 9 | 1 | 9 | 9 | 9 | 3 | Bladder, Disease of | | | | | | 1 | | | | | | 2 | 1 | 2 | 2 | 1 |
| Males | | | | | | | | | | | | | | | | 1 | 1 | | 2 | Bladder, Hemorrhage of | | | | | | | | | | | | | | | | |
| Total | 2 | 5 | 1 | 3 | 1 | | 1 | 2 | 1 | 2 | 3 | 1 | | 22 | 17 | 12 | 20 | 5 | 24 | Bladder, Inflammation of | 3 | | | | | | 1 | | | 1 | | 1 | 3 | 2 | 7 | 2 | 2 | |
| Males | 2 | 4 | 1 | 2 | 1 | | | 2 | 1 | 2 | 3 | 1 | | 19 | 17 | 10 | 15 | 4 | 22 | " " | 2 | | | | | | 1 | | | 1 | | 1 | 3 | 2 | 5 | 2 | 2 | |
| Females | | 1 | | 1 | | | 1 | | | | | | | 3 | | 2 | 5 | 1 | 2 | " " | 1 | | | | | | | | | | | | | 2 | | | |
| Males | | | | | | | | 1 | | 1 | | | | 2 | | | | | 2 | Bladder, Rupture of | | | | | 1 | | | | | | | | 1 | | | | |
| Males | | | | | | | | | | | | | | | 2 | | | | | Bladder, Paralysis of | | | | | | | | | | | | | | | | | |
| Males | | | | | 1 | | | | | | | | | 1 | 2 | | | | | Blood, Disease of | | | | | | | | | | | | | | 1 | | | |
| Females | | | | | | | 1 | | | | | | | 1 | 1 | | | | | " " | | | | | | | | | | | | | | 1 | | | |
| Total | 2 | 2 | 1 | 2 | | | 2 | | | 2 | 2 | 2 | | 15 | 13 | 11 | 12 | 19 | 15 | Blood vessel, Rupture of | 2 | | | | 1 | 1 | | 1 | 1 | | 2 | 2 | 2 | | | 1 | 2 | |
| Males | 2 | 1 | 1 | 2 | | | 2 | | | | 1 | 1 | | 10 | 7 | 6 | 6 | 10 | 7 | " " | 1 | | | | 1 | | | 1 | 1 | | 2 | 2 | | | | 2 | |
| Females | | 1 | | | | | | | | 2 | 1 | 1 | | 5 | 6 | 5 | 6 | 9 | 8 | " " | 1 | | | | | 1 | | | | | | | 2 | | | 1 | |
| Males | | 1 | | | | | | | | | 2 | | | 3 | 1 | | 1 | | 1 | Bone, Disease of | | | | | | | | | | 2 | | | | 1 | | | |
| Females | | | | | | | | | | | 1 | | | 1 | | 5 | | | 1 | " " | | | | | | | | | 1 | | | | | | | | |
| Males | | | | | | | | 1 | | | | | | 1 | 3 | 2 | 2 | 2 | | Bowels, Abscess of | | | 1 | | | | | | | | | | | | | | |
| Females | | | | | | | | | | 1 | | | | 1 | 1 | 3 | 2 | | 2 | " " | | | | | | | | | | | | | | 1 | | | |
| Males | | 2 | | | | | | 1 | | | 2 | 1 | | 6 | 3 | | | | | Bowels, Congestion of | 3 | 1 | | | | 1 | | | | | | | | 1 | | | |
| Females | | | 1 | | | 1 | | | | | | 1 | | 3 | 1 | | | | | " " | 1 | | | 1 | | | | | | | | | | 1 | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Males | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | .. | 2 | 1 | 2 | ... | 3 | 2 | Bowels, Constipation of | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 2 | 2 | ... | 2 | 2 | " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total | ... | 4 | 2 | 5 | 5 | 3 | 6 | 2 | ... | 5 | 2 | 1 | .. | 36 | 22 | 32 | 21 | 31 | 24 | Bowels, Consumption of | 5 | 1 | 1 | 2 | 6 | 4 | 3 | 3 | 1 | 3 | 1 | 2 | .. | .. | 1 | 1 | .. | 2 |
| Males | ... | 2 | 1 | 1 | 3 | 2 | 4 | ... | ... | 2 | 1 | ... | .. | 16 | 13 | 13 | 13 | 16 | 11 | " " | 5 | 1 | 1 | ... | 2 | ... | ... | 1 | 1 | 2 | ... | 1 | .. | .. | 1 | .. | .. | 1 |
| Females | ... | 2 | 1 | 4 | 2 | 1 | 2 | 3 | ... | 3 | 1 | 1 | .. | 20 | 9 | 19 | 8 | 15 | 13 | " " | ... | ... | ... | 2 | 4 | 4 | 3 | 2 | ... | 1 | 1 | 1 | .. | .. | .. | 1 | .. | 1 |
| Total | 4 | 2 | 2 | 1 | 2 | 2 | 5 | 6 | 5 | 11 | 3 | 3 | .. | 46 | 42 | 62 | 64 | 51 | 60 | Bowels, Disease of | 23 | 2 | 1 | ... | 1 | 3 | 2 | 1 | 1 | 2 | ... | 1 | .. | 4 | 2 | .. | 3 | .. |
| Males | 4 | ... | ... | ... | 1 | 1 | 3 | 4 | 3 | 7 | 1 | 1 | .. | 35 | 24 | 40 | 31 | 28 | 36 | " " | 15 | ... | 1 | ... | 1 | 2 | 1 | ... | 1 | ... | ... | 1 | .. | 2 | 1 | .. | .. | .. |
| Females | ... | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 4 | 2 | 2 | .. | 21 | 18 | 22 | 23 | 23 | 24 | " " | 8 | 2 | ... | ... | ... | 1 | 1 | 1 | ... | 2 | ... | ... | .. | 2 | 1 | .. | 3 | .. |
| Total | ... | 1 | ... | ... | ... | ... | ... | ... | 3 | ... | 3 | 1 | .. | 8 | 9 | 11 | 6 | 6 | 7 | Bowels, Hemorrhage of | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | 1 | 1 | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 3 | 1 | .. | 5 | 7 | 5 | 3 | 5 | 5 | " " | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | 1 | .. | .. |
| Females | ... | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | .. | 3 | 2 | 6 | 3 | 1 | 2 | " " | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .. | .. | .. | .. | .. |
| Total | 18 | 20 | 22 | 43 | 21 | 25 | 27 | 29 | 34 | 27 | 29 | 30 | .. | 334 | 358 | 315 | 352 | 390 | 389 | Bowels, Inflammation of | 135 | 19 | 15 | 17 | 20 | 16 | 19 | 14 | 9 | 12 | 7 | 11 | 8 | 13 | 8 | 6 | 3 | 2 |
| Males | 9 | 10 | 13 | 20 | 9 | 14 | 20 | 16 | 18 | 16 | 11 | 12 | .. | 168 | 177 | 178 | 184 | 219 | 188 | " " | 73 | 8 | 11 | 11 | 9 | 7 | 9 | 4 | 6 | 3 | 2 | 6 | 3 | 7 | 2 | 5 | 2 | .. |
| Females | 9 | 10 | 18 | 22 | 12 | 11 | 7 | 18 | 16 | 11 | 18 | 18 | .. | 166 | 176 | 136 | 168 | 171 | 151 | " " | 61 | 11 | 4 | 6 | 11 | 9 | 10 | 10 | 3 | 9 | 5 | 5 | 5 | 6 | 6 | 1 | 1 | 2 |
| Unknown | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | 1 | ... | 1 | ... | ... | ... | " " | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 1 | ... | ... | ... | ... | Bowels, Neuralgia of | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 6 | .. | 26 | 21 | 8 | 6 | 8 | 9 | Bowels, Obstruction of | 4 | 2 | 2 | 1 | ... | 2 | ... | 1 | 1 | 3 | 1 | 1 | 3 | 2 | 3 | .. | .. | .. |
| Males | 2 | ... | ... | 1 | ... | 1 | ... | ... | 1 | 1 | ... | 5 | .. | 11 | 12 | 4 | 4 | 6 | 5 | " " | 3 | 1 | 1 | 1 | ... | 1 | ... | ... | 1 | 1 | .. | ... | 1 | 1 | .. | .. | .. | .. |
| Females | 1 | 2 | 2 | 1 | 1 | ... | 1 | 1 | 1 | 2 | 2 | 1 | .. | 15 | 8 | 4 | 2 | 2 | 4 | " " | 1 | 1 | 1 | ... | ... | 1 | ... | 1 | ... | 2 | 1 | 1 | 2 | 1 | 3 | .. | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 3 | ... | ... | ... | ... | Bowels, Paralysis of | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 1 | ... | ... | ... | ... | " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 1 | ... | 6 | 2 | 2 | Bowels, Rupture of | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 2 | 2 | 2 | 1 | ... | " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total | 1 | 1 | 1 | 2 | ... | ... | ... | 1 | ... | ... | 2 | 1 | .. | 9 | 2 | 7 | 2 | 8 | 7 | Bowels, Ulceration of | 2 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 2 | 1 | 1 | 1 | .. | .. | .. |
| Males | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | .. | 5 | 1 | 3 | 1 | 5 | 6 | " " | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | .. | 1 | .. | .. | .. |
| Females | ... | ... | 1 | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | .. | 4 | 1 | 4 | 1 | 3 | 1 | " " | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | .. | 1 | .. | .. | .. | .. |

**Table 190.—CONTINUED.—*Causes of death—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total | | 1 | 1 | 2 | 1 | 1 | 1 | 1 | | 2 | 1 | | | 11 | 12 | 10 | 7 | 14 | 17 | Bladder, Calculus of | | | 1 | | | | | 1 | 1 | | | 2 | 1 | 2 | 2 | 1 | |
| Males | | 1 | 1 | 2 | 1 | 1 | 1 | 1 | | 2 | 1 | | | 11 | 11 | 9 | 4 | 13 | 16 | " " | | | 1 | | | | | 1 | 1 | | | 2 | 1 | 2 | 2 | 1 | |
| Females | | | | | | | | | | | | | | | 1 | 1 | 3 | 1 | 1 | " " | | | | | | | | | | | | | | | | | |
| Males | | 2 | 1 | | | 1 | | | | 2 | 1 | 2 | | 9 | 1 | 9 | 9 | 9 | 3 | Bladder, Disease of | | | | | | 1 | | | | | | | 2 | 1 | 2 | 2 | 1 |
| Males | | | | | | | | | | | | | | | | 1 | 1 | | 2 | Bladder, Hemorrhage of | | | | | | | | | | | | | | | | | |
| Total | 2 | 5 | 1 | 3 | 1 | | 1 | 2 | 1 | 2 | 3 | 1 | | 22 | 17 | 12 | 20 | 5 | 24 | Bladder, Inflammation of | 3 | | | | | | 1 | | | 1 | | 1 | 3 | 2 | 7 | 2 | 2 | |
| Males | 2 | 4 | 1 | 2 | 1 | | | 2 | 1 | 2 | 3 | 1 | | 19 | 17 | 10 | 15 | 4 | 22 | " " | 2 | | | | | | 1 | | | 1 | | 1 | 3 | 2 | 5 | 2 | 2 | |
| Females | | 1 | | 1 | | | 1 | | | | | | | 3 | | 2 | 5 | 1 | 2 | " " | 1 | | | | | | | | | | | | | 2 | | | | |
| Males | | | | | | | | 1 | | 1 | | | | 2 | | | | | 2 | Bladder, Rupture of | | | | | 1 | | | | | | | | | 1 | | | | |
| Males | | | | | | | | | | | | | | | 2 | | | | | Bladder, Paralysis of | | | | | | | | | | | | | | | | | |
| Males | | | | | 1 | | | | | | | | | 1 | 2 | | | | | Blood, Disease of | | | | | | | | | | | | | | | 1 | | |
| Females | | | | | | | 1 | | | | | | | 1 | 1 | | | | | " " | | | | | | | | | | | | | | | 1 | | |
| Total | 2 | 2 | 1 | 2 | | | 2 | | | 2 | 2 | 2 | | 15 | 13 | 11 | 12 | 19 | 15 | Blood vessel, Rupture of | 2 | | | | 1 | 1 | | 1 | 1 | | 2 | 2 | 2 | | | 1 | 2 | |
| Males | 2 | 1 | 1 | 2 | | | 2 | | | | 1 | 1 | | 10 | 7 | 6 | 6 | 10 | 7 | " " | 1 | | | | 1 | | | 1 | 1 | | 2 | 2 | | | | 2 | |
| Females | | 1 | | | | | | | | 2 | 1 | 1 | | 5 | 6 | 5 | 6 | 9 | 8 | " " | 1 | | | | | 1 | | | | | | 2 | | | 1 | | |
| Males | | 1 | | | | | | | | | 2 | | | 3 | 1 | | 1 | | 1 | Bone, Disease of | | | | | | | | | | 2 | | | | | 1 | | |
| Females | | | | | | | | | | | 1 | | | 1 | | 5 | | | 1 | " " | | | | | | | | | 1 | | | | | | | | |
| Males | | | | | | | | 1 | | | | | | 1 | 3 | 2 | 2 | 2 | | Bowels, Abscess of | | | 1 | | | | | | | | | | | | | | |
| Females | | | | | | | | | | 1 | | | | 1 | 1 | 3 | 2 | | 2 | " " | | | | | | | | | | | | | | | 1 | | |
| Males | | 2 | | | | | | 1 | | | 2 | 1 | | 6 | 3 | | | | | Bowels, Congestion of | 3 | 1 | | | | 1 | | | | | | | | | 1 | | |
| Females | | | 1 | | | 1 | | | | | | 1 | | 3 | 1 | | | | | " " | 1 | | | 1 | | | | | | | | | | | 1 | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Males | | | 1 | | | | | | | 1 | | | | 2 | 1 | 2 | | 3 | 2 | Bowels, Constipation of | 2 | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 2 | 2 | | 2 | 2 | " " | | | | | | | | | | | | | | | | | | |
| Total | | 4 | 2 | 5 | 5 | 3 | 6 | 3 | | 5 | 2 | 1 | | 38 | 22 | 32 | 21 | 31 | 24 | Bowels, Consumption of | 5 | 1 | 1 | 2 | 6 | 4 | 3 | 3 | 1 | 3 | 1 | 2 | | | 1 | 1 | | 2 |
| Males | | 2 | 1 | 1 | 3 | 2 | 4 | | | 2 | 1 | | | 16 | 13 | 13 | 13 | 16 | 11 | " " | 5 | 1 | 1 | | 2 | | | 1 | 1 | 2 | | 1 | | | 1 | | | 1 |
| Females | | 2 | 1 | 4 | 2 | 1 | 2 | 3 | | 3 | 1 | 1 | | 20 | 9 | 19 | 8 | 15 | 13 | " " | | | | 2 | 4 | 4 | 3 | 2 | | 1 | 1 | 1 | | | | 1 | | 1 |
| Total | 4 | 2 | 2 | 1 | 2 | 2 | 5 | 6 | 5 | 11 | 3 | 3 | | 46 | 42 | 62 | 64 | 51 | 60 | Bowels, Disease of | 23 | 2 | 1 | | 1 | 3 | 2 | 1 | 1 | 2 | | 1 | | 4 | 2 | | 3 | |
| Males | 4 | | | | 1 | 1 | 3 | 4 | 3 | 7 | 1 | 1 | | 25 | 24 | 40 | 31 | 28 | 36 | " " | 15 | | 1 | | 1 | 2 | 1 | | 1 | | | 1 | | 2 | 1 | | | |
| Females | | 2 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 4 | 2 | 2 | | 21 | 18 | 22 | 33 | 23 | 24 | " " | 8 | 2 | | | | 1 | 1 | 1 | | 2 | | | | 2 | 1 | | 3 | |
| Total | | 1 | | | | | | | 3 | | 3 | 1 | | 8 | 9 | 11 | 6 | 6 | 7 | Bowels, Hemorrhage of | 2 | | | | 1 | | | | | | | | 2 | 1 | 1 | 1 | | |
| Males | | | | | | | | | 1 | | 3 | 1 | | 5 | 7 | 5 | 3 | 5 | 5 | " " | | | | | 1 | | | | | | | | 1 | 1 | 1 | 1 | | |
| Females | | 1 | | | | | | | 2 | | | | | 3 | 2 | 6 | 3 | 1 | 2 | " " | 2 | | | | | | | | | | | | 1 | | | | | |
| Total | 18 | 20 | 32 | 42 | 21 | 25 | 27 | 29 | 34 | 27 | 29 | 30 | | 334 | 353 | 315 | 352 | 390 | 339 | Bowels, Inflammation of | 135 | 19 | 15 | 17 | 20 | 16 | 19 | 14 | 9 | 12 | 7 | 11 | 8 | 13 | 8 | 6 | 3 | 2 |
| Males | 9 | 10 | 13 | 20 | 9 | 14 | 20 | 16 | 18 | 16 | 11 | 12 | | 168 | 177 | 178 | 184 | 219 | 188 | " " | 73 | 8 | 11 | 11 | 9 | 7 | 9 | 4 | 6 | 3 | 2 | 6 | 3 | 7 | 2 | 5 | 2 | |
| Females | 9 | 10 | 18 | 22 | 12 | 11 | 7 | 13 | 16 | 11 | 18 | 18 | | 165 | 176 | 136 | 168 | 171 | 151 | " " | 61 | 11 | 4 | 6 | 11 | 9 | 10 | 10 | 3 | 9 | 5 | 5 | 5 | 6 | 6 | 1 | 1 | 2 |
| Unknown | | | 1 | | | | | | | | | | | 1 | | 1 | | | | " " | 1 | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 1 | | | | | Bowels, Neuralgia of | | | | | | | | | | | | | | | | | | |
| Total | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 2 | 6 | | 26 | 21 | 8 | 6 | 8 | 9 | Bowels, Obstruction of | 4 | 2 | 2 | 1 | | 2 | | 1 | 1 | 3 | 1 | 1 | 3 | 2 | 3 | | | |
| Males | 2 | | | 1 | | 1 | | | 1 | 1 | | 5 | | 11 | 13 | 4 | 4 | 6 | 5 | " " | 3 | 1 | 1 | 1 | | 1 | | | 1 | 1 | | | 1 | 1 | | | | |
| Females | 1 | 2 | 2 | 1 | 1 | | 1 | 1 | 1 | 2 | 2 | 1 | | 15 | 8 | 4 | 2 | 2 | 4 | " " | 1 | 1 | 1 | | | 1 | | 1 | | 2 | 1 | 1 | 2 | 1 | 3 | | | |
| Males | | | | | | | | | | | | | | | 3 | | | | | Bowels, Paralysis of | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | | | | | " " | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 1 | | 6 | 2 | 2 | Bowels, Rupture of | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 2 | 2 | 2 | 1 | | " " | | | | | | | | | | | | | | | | | | |
| Total | 1 | 1 | 1 | 2 | | | | 1 | | | 2 | 1 | | 9 | 2 | 7 | 2 | 8 | 7 | Bowels, Ulceration of | 2 | 1 | | | | | 1 | | | | | 2 | 1 | 1 | 1 | | | |
| Males | 1 | 1 | | | | | | | | | 2 | 1 | | 5 | 1 | 3 | 1 | 5 | 6 | " " | 1 | 1 | | | | | | | | | | 1 | 1 | | 1 | | | |
| Females | | | 1 | 2 | | | | 1 | | | | | | 4 | 1 | 4 | 1 | 3 | 1 | " " | 1 | | | | | | 1 | | | | | 1 | | 1 | | | | |

**Table 90.—CONTINUED.—*Causes of death—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | | Years, 1887–92. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Females | 20 | 21 | 19 | 27 | 19 | 26 | 20 | 12 | 17 | 19 | 13 | 31 | .. | 244 | 255 | 188 | 254 | 250 | 236 | Childbirth | .. | .. | .. | 19 | 49 | 53 | 43 | 46 | 25 | 4 | 1 | .. | .. | .. | .. | .. | .. | 4 |
| *Females* | .. | .. | *1* | *1* | .. | *1* | *1* | .. | *3* | *3* | .. | *2* | .. | *12* | *10* | .. | *8* | *5* | *11* | *Abortion (miscarriage)** | .. | .. | .. | .. | *2* | *2* | *2* | *3* | *2* | *1* | .. | .. | .. | .. | .. | .. | .. |
| *Females* | .. | .. | *1* | *1* | .. | *1* | .. | .. | *1* | *1* | .. | .. | .. | *5* | *2* | *3* | *3* | *1* | *1* | *Eclampsia** | .. | .. | .. | .. | *3* | *1* | .. | *1* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Females* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | *1* | .. | *1* | .. | .. | .. | .. | .. | *Ectopic gestation** | .. | .. | .. | .. | .. | .. | .. | .. | *1* | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Females* | .. | .. | .. | .. | .. | .. | *1* | .. | .. | .. | .. | .. | .. | *1* | .. | .. | .. | .. | .. | *Placenta prævia** | .. | .. | .. | .. | .. | *1* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Females* | .. | .. | .. | .. | .. | *1* | .. | .. | *1* | .. | .. | .. | .. | *2* | .. | .. | .. | .. | .. | *Post-partum hemorrhage** | .. | .. | .. | .. | .. | .. | .. | *1* | *1* | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Females* | *1* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | *1* | .. | .. | .. | .. | .. | *Puerperal mania** | .. | .. | .. | .. | .. | *1* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Females* | .. | .. | .. | .. | .. | .. | .. | .. | *1* | .. | .. | .. | .. | *1* | *1* | .. | *1* | *1* | *1* | *Phlegmasia dolens** | .. | .. | .. | .. | .. | .. | .. | *1* | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | 1 | 1 | 1 | 2 | 1 | 1 | .. | 4 | .. | .. | 1 | 4 | .. | 16 | 23 | 34 | 36 | 31 | 44 | Chills, Congestive | 5 | .. | 1 | .. | .. | 1 | 2 | .. | .. | 1 | 1 | 1 | 1 | .. | 2 | 1 | .. |
| Males | .. | .. | 1 | 1 | .. | 1 | .. | 3 | .. | .. | .. | 1 | .. | 7 | 10 | 18 | 15 | 11 | 27 | " " | 3 | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 2 | .. | .. |
| Females | 1 | 1 | .. | 1 | 1 | .. | .. | 1 | .. | .. | 1 | 3 | .. | 9 | 13 | 16 | 21 | 20 | 17 | " " | 2 | .. | .. | .. | .. | 1 | 2 | .. | .. | 1 | .. | 1 | 1 | .. | .. | 1 | .. |
| Females | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | Chlorosis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | 2 | 1 | 2 | 2 | 3 | 2 | 4 | 8 | 6 | 1 | 2 | 1 | .. | 34 | 31 | 23 | .. | .. | .. | "Cholera" | 29 | 1 | .. | 1 | 1 | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. |
| Males | 1 | .. | 2 | 2 | 1 | 2 | 3 | 6 | 2 | .. | 1 | 1 | .. | 21 | 16 | 16 | .. | .. | .. | " | 20 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| Females | 1 | 1 | .. | .. | 2 | .. | 1 | 2 | 4 | 1 | 1 | .. | .. | 13 | 15 | 7 | .. | .. | .. | " | 9 | 1 | .. | 1 | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. |
| Total | 7 | 9 | 10 | 15 | 14 | 22 | 101 | 171 | 140 | 89 | 21 | 8 | 1 | 608 | 799 | 592 | 722 | 767 | 626 | Cholera infantum | 599 | 3 | 2 | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| Males | 6 | 5 | 6 | 11 | 11 | 15 | 58 | 81 | 70 | 50 | 11 | 4 | 1 | 329 | 431 | 346 | 390 | 410 | 364 | " " | 324 | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| Females | 1 | 4 | 4 | 4 | 3 | 7 | 43 | 90 | 70 | 39 | 10 | 4 | .. | 279 | 364 | 245 | 331 | 357 | 262 | " " | 275 | 1 | 1 | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Unknown | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 1 | 1 | .. | .. | " " | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | 1 | .. | .. | .. | 2 | 4 | 6 | 13 | 9 | 6 | 1 | 1 | .. | 43 | 45 | 31 | 53 | 52 | 57 | Cholera morbus | 17 | 2 | .. | 2 | 1 | .. | .. | 2 | 1 | 3 | 1 | 3 | 2 | 5 | 2 | 1 | 1 | .. |
| Males | 1 | .. | .. | .. | 2 | 1 | 3 | 8 | 4 | 3 | 1 | .. | .. | 23 | 27 | 23 | 33 | 26 | 30 | " " | 11 | 1 | .. | 1 | .. | .. | .. | 2 | .. | 2 | .. | 1 | 2 | 1 | 1 | 1 | .. | .. |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Females ... | ... | ... | ... | ... | ... | 3 | 3 | 5 | 5 | 3 | ... | 1 | .. | 20 | 18 | 8 | 20 | 26 | 27 | " " ........ | 6 | 1 | ... | 1 | 1 | ... | ... | ... | 1 | 1 | 1 | 2 | .. | 4 | 1 | .. | 1 | .. |
| Total ...... | 1 | ... | 1 | 1 | 1 | 2 | ... | ... | 1 | ... | 1 | ... | .. | 8 | 3 | 3 | 3 | 2 | 2 | Chorea ........ | ... | 1 | ... | 3 | 1 | ... | ... | ... | 1 | ... | ... | ... | 2 | .. | .. | .. | .. | .. |
| Males...... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | .. | 2 | 1 | 1 | 1 | 1 | 1 | " ........ | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | .. | .. | .. | .. | .. |
| Females ... | ... | ... | 1 | 1 | 1 | 2 | ... | ... | 1 | ... | ... | ... | .. | 6 | 2 | 2 | 2 | 1 | 1 | " ........ | ... | 1 | ... | 3 | 1 | ... | ... | ... | 1 | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Males...... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 1 | ... | ... | ... | ... | Cirrhosis ........ | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total ...... | 3 | 2 | 4 | 5 | ... | 1 | 1 | 2 | 3 | 5 | 3 | 6 | .. | 35 | 25 | 15 | 40 | 38 | 29 | Cold........ | 28 | ... | 1 | 2 | ... | 1 | ... | ... | ... | ... | 1 | ... | .. | .. | 1 | .. | .. | 1 |
| Males...... | 2 | 1 | 3 | 2 | ... | ... | 1 | ... | 2 | 1 | 3 | 2 | .. | 17 | 12 | 9 | 21 | 17 | 14 | " ........ | 14 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | .. | .. | 1 | .. | .. | .. |
| Females ... | 1 | 1 | 1 | 3 | ... | 1 | ... | 2 | 1 | 4 | ... | 4 | .. | 18 | 13 | 6 | 19 | 21 | 15 | " ........ | 14 | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | 1 |
| Total ...... | ... | ... | 1 | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 4 | 2 | .. | 17 | 24 | 195 | 26 | 37 | 28 | Colic ........ | 11 | ... | 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | .. | 1 | 1 | .. | .. | .. |
| Males...... | ... | ... | 1 | 1 | 2 | 1 | 2 | ... | ... | ... | 3 | 2 | .. | 12 | 11 | 107 | 14 | 24 | 15 | " ........ | 7 | ... | 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | .. | 1 | .. | .. | .. | .. |
| Females ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | 1 | 1 | ... | .. | 5 | 13 | 88 | 12 | 13 | 13 | " ........ | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | 1 | .. | .. | .. |
| Males...... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | 3 | 1 | 2 | Colic, Bilious ........ | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | 1 | ... | ... | " " ........ | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Males...... | ... | ... | ... | 1 | ... | 1 | ... | 1 | 1 | ... | 2 | 1 | .. | 7 | 3 | ... | ... | ... | ... | Congestion........ | 5 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | .. | .. | .. | .. | .. | .. |
| Females ... | ... | ... | 1 | ... | 1 | ... | ... | 1 | ... | 2 | 1 | 1 | 1 | 8 | 7 | ... | ... | ... | ... | " ........ | 4 | ... | ... | 1 | ... | ... | ... | ... | 2 | ... | ... | ... | .. | .. | 1 | .. | .. | .. |
| Total ...... | 177 | 151 | 173 | 187 | 199 | 190 | 167 | 179 | 164 | 177 | 143 | 169 | 4 | 2080 | 2060 | 2207 | 2137 | 2424 | 2127 | Consumption ........ | 84 | 22 | 41 | 212 | 273 | 282 | 207 | 178 | 129 | 122 | 110 | 113 | 70 | 85 | 64 | 41 | 18 | 29 |
| Males...... | 82 | 68 | 84 | 83 | 96 | 89 | 76 | 89 | 73 | 88 | 73 | 73 | .. | 969 | 980 | 1060 | 987 | 1103 | 985 | " ........ | 47 | 10 | 9 | 71 | 112 | 113 | 99 | 90 | 60 | 63 | 62 | 66 | 38 | 46 | 35 | 24 | 11 | 13 |
| Females ... | 95 | 83 | 89 | 104 | 103 | 101 | 91 | 90 | 91 | 94 | 70 | 96 | 4 | 1111 | 1079 | 1147 | 1150 | 1321 | 1141 | " ........ | 37 | 12 | 32 | 141 | 161 | 169 | 108 | 88 | 69 | 59 | 48 | 47 | 32 | 39 | 29 | 17 | 7 | 16 |
| Unknown .. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 1 | ... | ... | ... | 1 | " ........ | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total ...... | 52 | 46 | 49 | 48 | 55 | 41 | 47 | 53 | 46 | 30 | 30 | 51 | .. | 548 | 547 | 349 | 453 | 516 | 474 | Convulsions ........ | 501 | 10 | 6 | 2 | 4 | 4 | 5 | 2 | 2 | ... | 2 | 1 | .. | .. | 1 | 1 | 1 | 6 |
| Males ...... | 30 | 24 | 30 | 32 | 26 | 27 | 32 | 33 | 20 | 18 | 22 | 27 | .. | 321 | 313 | 204 | 256 | 295 | 267 | " ........ | 293 | 6 | 3 | 1 | 3 | 3 | 2 | 1 | 1 | ... | 1 | 1 | .. | .. | 1 | 1 | 1 | 3 |
| Females ... | 22 | 22 | 19 | 16 | 28 | 14 | 14 | 20 | 26 | 12 | 8 | 24 | .. | 225 | 284 | 145 | 196 | 221 | 207 | " ........ | 207 | 4 | 3 | 1 | 1 | 1 | 3 | 1 | 1 | ... | 1 | ... | .. | .. | .. | .. | .. | 2 |
| Unknown .. | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | .. | 2 | ... | ... | 1 | ... | ... | " ........ | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | 1 |
| Males...... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .. | 1 | 2 | ... | ... | ... | ... | Cough ........ | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 2 | ... | ... | ... | 1 | " ........ | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |

* Numbers for these titles included in total deaths from childbirth.

## Table 90.—Continued.—*Causes of death—Alphabetical list.*

| Sex. | Months, 1892. | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages and periods of years, 1892. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total | 23 | 18 | 11 | 20 | 13 | 12 | 11 | 17 | 13 | 18 | 25 | 30 | .. | 211 | 253 | 415 | 357 | 384 | 282 | Croup | 171 | 34 | 3 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| Males | 13 | 11 | 7 | 12 | 10 | 10 | 6 | 8 | 7 | 9 | 16 | 18 | .. | 127 | 133 | 244 | 173 | 214 | 159 | " | 102 | 23 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | 10 | 6 | 4 | 8 | 3 | 2 | 5 | 9 | 6 | 9 | 9 | 12 | .. | 83 | 120 | 171 | 184 | 170 | 123 | " | 69 | 11 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Unknown | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | 1 | ... | ... | ... | ... | ... | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Total | 8 | 6 | 11 | 7 | 5 | 1 | 2 | 3 | 8 | 7 | 15 | 7 | .. | 80 | 35 | 56 | 46 | 90 | 117 | Croup, Membranous | 54 | 24 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | 2 | 3 | 6 | 4 | 3 | 1 | 2 | 3 | 3 | 5 | 6 | 4 | .. | 42 | 18 | 38 | 19 | 46 | 68 | " " | 30 | 11 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | 6 | 3 | 5 | 3 | 2 | ... | ... | ... | 5 | 2 | 9 | 3 | .. | 38 | 17 | 18 | 27 | 44 | 49 | " " | 24 | 13 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | 1 | 1 | 2 | ... | Cyanosis | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | .. | 1 | 2 | 3 | 1 | ... | ... | " | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 12 | 14 | 24 | 24 | 14 | 17 | 15 | 19 | 23 | 24 | 19 | 18 | .. | 223 | 315 | 280 | 334 | 318 | 239 | Debility | 102 | 1 | ... | ... | 3 | 2 | 2 | 6 | 1 | 3 | 5 | 5 | 5 | 18 | 17 | 24 | 24 | 5 |
| Males | 9 | 10 | 16 | 12 | 9 | 9 | 7 | 12 | 11 | 15 | 8 | 12 | .. | 130 | 178 | 154 | 181 | 169 | 125 | " | 64 | ... | ... | ... | 1 | 1 | ... | 3 | 1 | 3 | 4 | 2 | 2 | 10 | 12 | 10 | 17 | ... |
| Females | 3 | 4 | 8 | 12 | 5 | 8 | 7 | 7 | 12 | 9 | 11 | 6 | .. | 92 | 137 | 126 | 153 | 149 | 114 | " | 37 | 1 | ... | ... | 2 | 1 | 2 | 3 | ... | ... | 1 | 3 | 3 | 8 | 5 | 14 | 7 | 5 |
| Unknown | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | .. | 1 | ... | ... | ... | ... | ... | " | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 4 | 3 | 2 | 4 | 4 | 3 | 3 | 2 | 5 | 4 | 4 | 7 | .. | 45 | 20 | 26 | 33 | 34 | 25 | Debility, Nervous | ... | ... | 1 | ... | ... | 1 | 2 | 2 | 4 | 3 | 7 | 3 | 6 | 5 | 3 | 4 | 3 | 1 |
| Males | 2 | 2 | ... | 1 | 2 | 1 | 3 | ... | 1 | ... | 2 | 3 | .. | 17 | 10 | 8 | 14 | 17 | 14 | " " | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 3 | 2 | 2 | 2 | 1 | 3 | 1 | 1 |
| Females | 2 | 1 | 2 | 3 | 2 | 2 | ... | 2 | 4 | 4 | 2 | 4 | .. | 28 | 10 | 18 | 19 | 17 | 11 | " " | ... | ... | ... | ... | ... | 1 | 2 | 2 | 3 | 3 | 4 | 1 | 4 | 3 | 2 | 1 | 2 | ... |
| Total | 8 | 5 | 6 | 3 | 6 | 5 | 1 | 3 | 7 | 6 | 9 | 11 | .. | 69 | 78 | 68 | 74 | 71 | 61 | Diabetes | 1 | 6 | 8 | 5 | 1 | 2 | 1 | 2 | 2 | ... | 8 | 8 | 4 | 7 | 6 | 5 | 2 | 1 |
| Males | 5 | 2 | 2 | 3 | 1 | 4 | 1 | ... | 6 | 4 | 6 | 5 | .. | 38 | 56 | 42 | 54 | 51 | 38 | " | 1 | 3 | 3 | 1 | 1 | ... | ... | 2 | 2 | ... | 4 | 3 | 1 | 4 | 6 | 4 | 2 | 1 |
| Females | 3 | 3 | 4 | 1 | 5 | 1 | ... | 2 | 1 | 2 | 3 | 6 | .. | 31 | 22 | 21 | 20 | 20 | 23 | " | ... | 3 | 5 | 4 | ... | 2 | 1 | ... | ... | ... | 4 | 5 | 3 | 3 | ... | 1 | ... | ... |
| Total | 6 | 2 | 7 | 3 | 5 | 11 | 31 | 79 | 47 | 25 | 11 | 3 | .. | 250 | 275 | 308 | 419 | 355 | 309 | Diarrhea | 225 | 4 | ... | ... | 1 | ... | 3 | ... | 1 | 1 | 2 | 3 | 1 | 2 | 2 | 3 | 3 | ... |
| Males | 5 | 2 | 5 | 3 | 2 | 3 | 27 | 37 | 27 | 9 | 5 | 3 | .. | 132 | 149 | 171 | 211 | 191 | 204 | " | 118 | 1 | ... | ... | 1 | ... | 1 | ... | 1 | ... | 1 | ... | 1 | 1 | 2 | 3 | 3 | ... |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Females | 1 | ... | 2 | 1 | 3 | 3 | 24 | 42 | 20 | 16 | 6 | ... | .. | 118 | 126 | 187 | 207 | 164 | 195 | " | 107 | 3 | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | 3 | .. | 1 | .. | .. | 1 | .. |
| Unknown | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | 1 | ... | ... | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 4 | 6 | 3 | 1 | 1 | .. | 25 | 17 | 17 | 31 | 16 | 15 | Diarrhea, Chronic | ... | 1 | ... | ... | 1 | 1 | 1 | 2 | ... | 1 | 3 | 3 | 5 | 2 | 3 | 1 | 1 | .. |
| Males | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 3 | 6 | 1 | 1 | 1 | .. | 20 | 15 | 9 | 23 | 15 | 12 | " " | ... | 1 | ... | ... | 1 | 1 | 1 | ... | ... | ... | 3 | 2 | 5 | 2 | 2 | 1 | 1 | .. |
| Females | 1 | .. | 1 | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | .. | 5 | 2 | 8 | 8 | 1 | 3 | " " | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | 1 | .. | .. | 1 | .. | .. | .. |
| Total | 48 | 57 | 71 | 91 | 98 | 73 | 61 | 54 | 67 | 99 | 143 | 152 | 3 | 1020 | 1060 | 1266 | 849 | 723 | 935 | Diphtheria | 419 | 360 | 149 | 45 | 21 | 12 | 2 | 1 | 3 | 2 | 2 | ... | .. | .. | 1 | .. | .. | 3 |
| Males | 21 | 30 | 38 | 45 | 50 | 33 | 32 | 31 | 36 | 58 | 75 | 75 | 1 | 525 | 543 | 623 | 430 | 373 | 474 | " | 218 | 194 | 70 | 23 | 11 | 3 | ... | ... | 2 | 2 | 1 | ... | .. | .. | 1 | .. | .. | .. |
| Females | 27 | 27 | 33 | 46 | 48 | 40 | 29 | 23 | 31 | 41 | 68 | 77 | 2 | 495 | 516 | 643 | 419 | 350 | 461 | " | 201 | 166 | 79 | 22 | 10 | 9 | 2 | 1 | 1 | ... | 1 | ... | .. | .. | .. | .. | .. | 3 |
| Unknown | | | | | | | | | | | | | | ... | 1 | ... | ... | ... | ... | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total | 17 | 27 | 25 | 38 | 28 | 34 | 35 | 34 | 32 | 29 | 39 | 51 | .. | 389 | 397 | 421 | 337 | 462 | 338 | Dropsy | 16 | 10 | 5 | 8 | 8 | 12 | 6 | 15 | 17 | 23 | 22 | 33 | 41 | 58 | 46 | 34 | 31 | 4 |
| Males | 10 | 10 | 14 | 17 | 10 | 21 | 15 | 18 | 14 | 11 | 16 | 23 | .. | 179 | 195 | 195 | 172 | 222 | 170 | " | 7 | 7 | 2 | 5 | 5 | 4 | 1 | 8 | 4 | 9 | 8 | 15 | 23 | 26 | 18 | 17 | 16 | 4 |
| Females | 7 | 17 | 11 | 21 | 18 | 13 | 20 | 16 | 18 | 18 | 23 | 28 | .. | 210 | 202 | 226 | 165 | 240 | 168 | " | 9 | 3 | 3 | 3 | 3 | 8 | 5 | 7 | 13 | 14 | 14 | 18 | 18 | 32 | 28 | 17 | 15 | .. |
| Males | .. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 4 | 2 | ... | 1 | 4 | Dropsy of bowels | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | | 1 | ... | | | 1 | ... | ... | ... | 1 | 1 | 1 | .. | 5 | 2 | ... | ... | 3 | 3 | " " " | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | 2 | .. | .. | 1 | .. | .. | .. |
| Total | 3 | 1 | 1 | 4 | 3 | 1 | 2 | 3 | 1 | 4 | 3 | 5 | .. | 31 | 23 | 37 | 39 | 40 | 58 | Dropsy of brain | 26 | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 1 | .. | 1 | .. | .. | .. | .. |
| Males | 1 | .. | . | 2 | 1 | .. | 1 | 1 | ... | 3 | 2 | 3 | .. | 14 | 11 | 24 | 29 | 26 | 33 | " " " | 13 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | .. | 17 | 12 | 13 | 10 | 14 | 25 | " " " | 13 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 1 | .. | 1 | ... | ... | ... | ... |
| Males | .. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | ... | 2 | 3 | Dropsy of chest | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | 1 | ... | ... | 1 | " " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total | 6 | 3 | 5 | 5 | 15 | 10 | 8 | 11 | 8 | 2 | 7 | 14 | .. | 95 | 70 | 70 | 61 | 86 | 107 | Dropsy of heart | 3 | 1 | 2 | ... | ... | 2 | 3 | 3 | 2 | 6 | 6 | 11 | 8 | 20 | 14 | 5 | 6 | 3 |
| Males | 5 | 2 | 1 | 1 | 8 | 6 | 5 | 6 | 4 | 1 | 4 | 8 | .. | 52 | 40 | 38 | 23 | 37 | 54 | " " " | 1 | 1 | 1 | ... | ... | 1 | ... | 1 | 1 | 4 | 3 | 2 | 4 | 12 | 13 | 4 | 3 | 1 |
| Females | 1 | 1 | 4 | 4 | 7 | 4 | 3 | 5 | 4 | 1 | 3 | 6 | .. | 43 | 30 | 32 | 38 | 49 | 53 | " " " | 2 | ... | 1 | ... | ... | 1 | 3 | 2 | 1 | 2 | 3 | 9 | 4 | 8 | 1 | 1 | 3 | 2 |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 1 | 1 | ... | 1 | 1 | Dropsy of kidneys | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | ... | 2 | ... | Dropsy of liver | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | 1 | ... | 1 | ... | ... | ... | " " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | 1 | .. | .. | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 1 | ... | ... | ... | ... | Dropsy of scrotum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 1 | ... | ... | ... | ... | Dropsy of stomach | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Females | 1 | ... | 2 | 1 | 3 | 3 | 24 | 42 | 20 | 16 | 6 | ... | .. | 118 | 126 | 137 | 207 | 164 | 195 | " | 107 | 3 | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | 3 | .. | 1 | .. | .. | 1 | .. |
| Unknown | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | .... | .... | 1 | .... | .... | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 4 | 6 | 3 | 1 | 1 | .. | 25 | 17 | 17 | 31 | 16 | 15 | Diarrhea, Chronic | ... | 1 | ... | ... | 1 | 1 | 1 | 2 | ... | 1 | 3 | 3 | 5 | 2 | 3 | 1 | 1 | .. |
| Males | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 3 | 6 | 1 | 1 | 1 | .. | 20 | 15 | 9 | 23 | 15 | 12 | " " | ... | 1 | ... | ... | 1 | 1 | 1 | ... | ... | ... | 3 | 2 | 5 | 2 | 2 | 1 | 1 | .. |
| Females | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | .. | 5 | 2 | 8 | 8 | 1 | 3 | " " | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | 1 | .. | .. | 1 | .. | .. | .. |
| Total | 48 | 57 | 71 | 94 | 98 | 73 | 61 | 54 | 67 | 99 | 143 | 152 | 3 | 1020 | 1060 | 1266 | 849 | 723 | 985 | Diphtheria | 419 | 360 | 149 | 45 | 21 | 12 | 2 | 1 | 3 | 2 | 2 | ... | .. | .. | 1 | .. | .. | 3 |
| Males | 21 | 30 | 38 | 45 | 50 | 33 | 32 | 31 | 36 | 58 | 75 | 75 | 1 | 525 | 543 | 623 | 430 | 373 | 474 | " | 218 | 194 | 70 | 23 | 11 | 3 | ... | ... | 2 | 2 | 1 | ... | .. | .. | 1 | .. | .. | .. |
| Females | 27 | 27 | 33 | 49 | 48 | 40 | 29 | 23 | 31 | 41 | 68 | 77 | 2 | 495 | 516 | 643 | 419 | 350 | 461 | " | 201 | 166 | 79 | 22 | 10 | 9 | 2 | 1 | 1 | ... | 1 | ... | .. | .. | .. | .. | .. | 3 |
| Unknown | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | 1 | .... | .... | .... | .... | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total | 17 | 27 | 25 | 38 | 28 | 34 | 35 | 34 | 32 | 29 | 39 | 51 | .. | 389 | 397 | 421 | 337 | 462 | 338 | Dropsy | 16 | 10 | 5 | 8 | 8 | 12 | 6 | 15 | 17 | 23 | 22 | 33 | 41 | 58 | 46 | 34 | 31 | 4 |
| Males | 10 | 10 | 14 | 17 | 10 | 21 | 15 | 18 | 14 | 11 | 16 | 23 | .. | 179 | 195 | 195 | 172 | 222 | 170 | " | 7 | 7 | 2 | 5 | 5 | 4 | 1 | 8 | 4 | 9 | 8 | 15 | 23 | 26 | 18 | 17 | 16 | 4 |
| Females | 7 | 17 | 11 | 21 | 18 | 13 | 20 | 16 | 18 | 18 | 23 | 28 | .. | 210 | 202 | 226 | 165 | 240 | 168 | " | 9 | 3 | 3 | 3 | 3 | 8 | 5 | 7 | 13 | 14 | 14 | 18 | 18 | 32 | 28 | 17 | 15 | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | 4 | 2 | .... | 1 | 4 | Dropsy of bowels | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | 1 | .. | 5 | 2 | .... | .... | 3 | 3 | " " " | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | 2 | .. | .. | 1 | .. | .. | .. |
| Total | 3 | 1 | 1 | 4 | 3 | 1 | 2 | 3 | 1 | 4 | 3 | 5 | .. | 31 | 23 | 37 | 39 | 40 | 58 | Dropsy of brain | 26 | •1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 1 | .. | 1 | .. | .. | .. | .. |
| Males | 1 | ... | ... | 2 | 1 | ... | 1 | 1 | ... | 3 | 2 | 3 | .. | 14 | 11 | 24 | 29 | 26 | 33 | " " " | 13 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | .. | 17 | 12 | 13 | 10 | 14 | 25 | " " " | 13 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 1 | .. | 1 | .. | .. | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | .... | .... | .... | 2 | 3 | Dropsy of chest | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | .... | 1 | .... | .... | 1 | " " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Total | 6 | 3 | 6 | 5 | 15 | 10 | 8 | 11 | 8 | 2 | 7 | 14 | .. | 95 | 70 | 70 | 61 | 86 | 107 | Dropsy of heart | 3 | 1 | 2 | ... | ... | 2 | 3 | 3 | 2 | 6 | 6 | 11 | 8 | 20 | 14 | 5 | 6 | 3 |
| Males | 5 | 2 | 2 | 1 | 8 | 6 | 5 | 6 | 4 | 1 | 4 | 8 | .. | 52 | 40 | 38 | 23 | 37 | 54 | " " " | 1 | 1 | 1 | ... | ... | 1 | ... | 1 | 1 | 4 | 3 | 2 | 4 | 12 | 13 | 4 | 3 | 1 |
| Females | 1 | 1 | 4 | 4 | 7 | 4 | 3 | 5 | 4 | 1 | 3 | 6 | .. | 43 | 30 | 32 | 38 | 49 | 53 | " " " | 2 | ... | 1 | ... | ... | 1 | 3 | 2 | 1 | 2 | 3 | 9 | 4 | 8 | 1 | 1 | 3 | 2 |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | 1 | 1 | .... | 1 | 1 | Dropsy of kidneys | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | .... | .... | .... | 2 | .... | Dropsy of liver | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Females | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | 1 | .... | 1 | .... | .... | .... | " " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | 1 | .. | .. | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | 1 | .... | .... | .... | .... | Dropsy of scrotum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | 1 | .... | .... | .... | .... | Dropsy of stomach | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | .. |

**Table 90.**—CONTINUED.—*Causes of death—Alphabetical list.*

| Sex. | Months, 1892. | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Females | 6 | 2 | 7 | 3 | 5 | 6 | 2 | 3 | 2 | ... | 5 | 1 | .. | 42 | 35 | 26 | 32 | 51 | 33 | Fever, Puerperal | ... | ... | ... | 2 | 11 | 7 | 10 | 5 | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 42 | 39 | 47 | 49 | 51 | 40 | 26 | 33 | 30 | 22 | 18 | 45 | .. | 442 | 400 | 222 | 240 | 323 | 318 | Fever, Scarlet | 287 | 111 | 25 | 7 | 3 | ... | 3 | 1 | 1 | .. | ... | ... | ... | ... | ... | ... | ... | 4 |
| Males | 18 | 17 | 25 | 27 | 21 | 21 | 12 | 13 | 17 | 14 | 9 | 15 | .. | 209 | 208 | 102 | 110 | 170 | 152 | " " | 138 | 52 | 11 | 3 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 |
| Females | 24 | 22 | 22 | 22 | 30 | 19 | 14 | 20 | 13 | 8 | 9 | 30 | .. | 233 | 191 | 120 | 130 | 153 | 166 | " " | 149 | 59 | 14 | 4 | 3 | ... | 2 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Unknown | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 1 | ... | ... | ... | ... | " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 3 | 2 | 3 | 2 | 3 | 1 | 2 | 4 | 6 | ... | 1 | 5 | .. | 32 | 45 | 52 | 74 | 74 | 79 | Fever, Spinal | 20 | 3 | 2 | 4 | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | ... | ... | ... |
| Males | 2 | 1 | 2 | 1 | 2 | ... | 1 | 2 | 3 | ... | 1 | 3 | .. | 18 | 27 | 21 | 40 | 36 | 43 | " " | 12 | 2 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... |
| Females | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 | ... | ... | 2 | .. | 14 | 18 | 31 | 34 | 38 | 36 | " " | 8 | 1 | 1 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Total | 41 | 26 | 36 | 44 | 34 | 31 | 48 | 60 | 77 | 98 | 81 | 50 | .. | 626 | 684 | 465 | 637 | 638 | 770 | Fever, Typhoid | 49 | 25 | 45 | 101 | 117 | 71 | 52 | 33 | 31 | 19 | 14 | 13 | 13 | 14 | 11 | 6 | 4 | 8 |
| Males | 25 | 14 | 22 | 24 | 20 | 21 | 30 | 39 | 44 | 60 | 46 | 27 | .. | 372 | 430 | 263 | 372 | 353 | 439 | " " | 24 | 17 | 19 | 48 | 67 | 49 | 36 | 25 | 22 | 10 | 11 | 7 | 6 | 10 | 9 | 4 | 3 | 5 |
| Females | 16 | 12 | 14 | 20 | 14 | 10 | 18 | 21 | 33 | 37 | 35 | 23 | .. | 253 | 254 | 202 | 265 | 285 | 331 | " " | 25 | 8 | 26 | 53 | 50 | 22 | 16 | 8 | 9 | 9 | 3 | 6 | 7 | 4 | 2 | 2 | 1 | 2 |
| Unknown | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | .. | 1 | ... | ... | ... | ... | ... | " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Total | 1 | 1 | ... | ... | 1 | 1 | 2 | 4 | 5 | 6 | 1 | 1 | .. | 23 | 16 | 27 | 43 | 31 | 52 | Fever, Typho-malarial | 2 | 1 | 2 | 2 | 2 | 3 | 2 | 1 | 2 | 2 | 1 | 1 | .. | 1 | 1 | ... | ... | ... |
| Males | ... | 1 | ... | ... | ... | 1 | ... | 2 | 1 | 4 | ... | ... | .. | 9 | 10 | 18 | 24 | 16 | 25 | " " | ... | 1 | ... | 2 | ... | 1 | 1 | ... | ... | 1 | 1 | 1 | ... | ... | 1 | ... | ... | ... |
| Females | 1 | ... | ... | ... | 1 | ... | 2 | 2 | 4 | 2 | 1 | 1 | .. | 14 | 6 | 9 | 19 | 15 | 27 | " " | 2 | ... | 2 | ... | 2 | 2 | 1 | 1 | 2 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... |
| Total | ... | ... | 1 | 1 | ... | ... | 1 | 1 | 1 | ... | ... | 1 | .. | 6 | 7 | 11 | 4 | 3 | 7 | Fever, Typhus | ... | ... | 1 | 2 | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | 1 | ... | ... | 1 | ... | 1 | ... | ... | ... | .. | 3 | 3 | 6 | 3 | 2 | 4 | " " | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | .. | 3 | 4 | 5 | 1 | 1 | 3 | " " | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | .. | 1 | 1 | ... | 2 | ... | 3 | Fistula | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 2 | ... | 1 | ... | ... | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | 1 | ... | ... | ... | ... | ... | Gall, Disease of | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | 1 | 1 | | 2 | 2 | | | | | " " " | | | | | | | | | | 1 | | | 1 | | | | | |
| Males | | | | | | | | | 1 | | | | | 1 | 1 | | 3 | 1 | 2 | Gall-stone | | | | | | | | | | | | 1 | | | | | | |
| Females | 2 | | | | 1 | 1 | | | | | | 1 | | 5 | 5 | 1 | 3 | 4 | 5 | " | | | | | | | | | | 1 | 1 | 2 | | | 1 | | | |
| Total | 2 | | 1 | 4 | 2 | 1 | 1 | 1 | | 5 | 1 | 2 | | 20 | 29 | 17 | 22 | 18 | 13 | Gangrene | | | | | | | | | 1 | 2 | 2 | | 1 | 3 | 3 | 1 | 7 | |
| Males | 1 | | 1 | 2 | | 1 | 1 | 1 | | 1 | | 2 | | 10 | 19 | 14 | 17 | 16 | 10 | " | | | | | | | | | | 1 | | | | 2 | 2 | | 5 | |
| Females | 1 | | | 2 | 2 | | | | | 4 | 1 | | | 10 | 10 | 3 | 5 | 2 | 3 | " | | | | | | | | | 1 | 1 | 2 | | 1 | 1 | 1 | 1 | 2 | |
| Males | | | | | | | | | 1 | | | | | 1 | | | | | | Glanders | | | | | | | | 1 | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | | 1 | 1 | | 1 | Glandular disease | | | | | | | | | | | | | | | | | | |
| Females | | | 1 | | | | | | | | | | | 1 | | | | 1 | 1 | " " | | | | | | | | | 1 | | | | | | | | | |
| Males | | | | | | | | | | | | | | | | 1 | | | | Goitre | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | 2 | 1 | 1 | 1 | " | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | | | | | 1 | Gonorrhœa | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 1 | 1 | 1 | | | Gout | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | | | | | " | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 2 | | | | | Grief | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 5 | 3 | 8 | | 8 | Head, Disease of | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | 2 | 3 | 3 | 4 | " " " | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | | | | | Heart clot | | | | | | | | | | | | | | | | | | |
| Total | 66 | 71 | 65 | 74 | 72 | 49 | 55 | 51 | 58 | 82 | 82 | 72 | 1 | 798 | 825 | 1060 | 976 | 864 | 750 | Heart, Disease of | 39 | 7 | 16 | 30 | 23 | 20 | 24 | 24 | 41 | 45 | 55 | 74 | 95 | 95 | 90 | 69 | 38 | 13 |
| Males | 34 | 40 | 30 | 44 | 38 | 23 | 27 | 31 | 35 | 44 | 44 | 40 | 1 | 431 | 480 | 606 | 533 | 488 | 421 | " " " | 27 | 4 | 12 | 15 | 14 | 7 | 12 | 7 | 18 | 23 | 25 | 42 | 34 | 44 | 54 | 40 | 22 | 11 |
| Females | 32 | 31 | 35 | 30 | 34 | 26 | 28 | 20 | 23 | 38 | 38 | 32 | .. | 367 | 345 | 454 | 443 | 375 | 329 | " " " | 12 | 3 | 4 | 15 | 9 | 13 | 12 | 17 | 23 | 22 | 30 | 32 | 41 | 51 | 36 | 29 | 16 | 2 |
| Unknown | | | | | | | | | | | | | | | | | | 1 | | " " " | | | | | | | | | | | | | | | | | | |
| Males | | | | 1 | | | | | | | 1 | | | 2 | | | | | | Heart, Endocarditis of | 1 | 1 | | | | | | | | | | | | | | | | |
| Total | 45 | 24 | 27 | 39 | 33 | 20 | 27 | 27 | 22 | 38 | 33 | 33 | .. | 368 | 375 | | | | | "Heart failure" * | 19 | 5 | 3 | 4 | 8 | 7 | 15 | 17 | 9 | 24 | 23 | 27 | 40 | 38 | 56 | 34 | 35 | 4 |
| Males | 23 | 19 | 14 | 19 | 22 | 12 | 13 | 16 | 14 | 18 | 12 | 13 | .. | 195 | 202 | | | | | " " " | 7 | | 1 | 1 | 2 | 2 | 5 | 8 | 1 | 14 | 19 | 11 | 27 | 17 | 32 | 22 | 24 | 2 |
| Females | 22 | 5 | 13 | 20 | 11 | 8 | 14 | 11 | 8 | 19 | 21 | 20 | .. | 172 | 173 | | | | | " " " | 11 | 5 | 2 | 3 | 6 | 5 | 10 | 9 | 8 | 10 | 4 | 16 | 13 | 21 | 24 | 12 | 11 | 2 |
| Unknown | | | | | | | | | | 1 | | | | 1 | | | | | | " " " | 1 | | | | | | | | | | | | | | | | | |

* Included in heart disease prior to 1891.

**Table 90.—CONTINUED.—*Causes of death—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total | | | 3 | | 2 | | 1 | | | | | | | 6 | 4 | 4 | 7 | 5 | 6 | Heart, Fatty degeneration of | | | | | | | 1 | 1 | | | 1 | 1 | | 1 | | 1 | |
| Males | | | 2 | | | | | | | | | | | 2 | 1 | 2 | 4 | 2 | 5 | " " " | | | | | | | | | | | 1 | 1 | | | | | |
| Females | | | 1 | | 2 | | 1 | | | | | | | 4 | 3 | 2 | 3 | 3 | 1 | " " " | | | | | | | 1 | 1 | | | | | 1 | | 1 | |
| Total | | 1 | | 1 | 3 | | 1 | 1 | 1 | | | | | 8 | 3 | 9 | 9 | 11 | 9 | Heart, Hypertrophy of | | | | | | | | | 1 | 1 | 3 | 2 | | 1 | | | |
| Males | | | | 1 | 2 | | 1 | 1 | | | | | | 5 | 2 | 5 | 6 | 6 | 3 | " " | | | | | | | | | 1 | 1 | | 2 | | 1 | | | |
| Females | | 1 | | | 1 | | | | 1 | | | | | 3 | 1 | 4 | 3 | 5 | 6 | " " | | | | | | | | | | | 3 | | | | | | |
| Males | | | | | | | | | | | | | | | | 1 | | 5 | | Heart, Inflammation of | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 2 | 1 | 4 | 5 | 2 | " " | | | | | | | | | | | | | | | | | |
| Total | 1 | 1 | 1 | 2 | 1 | 4 | 2 | 1 | | 1 | 4 | 3 | | 21 | 32 | 9 | 36 | 37 | 34 | Heart, Neuralgia of | | | | | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 6 | 2 | 2 | 1 |
| Males | 1 | 1 | | | | 3 | 1 | | | 1 | 1 | 2 | | 10 | 21 | 7 | 24 | 19 | 16 | " " | | | | | | | | 1 | | 1 | 1 | 2 | 2 | | 2 | 1 |
| Females | | | 1 | 2 | 1 | 1 | 1 | 1 | | | 3 | 1 | | 11 | 11 | 2 | 12 | 18 | 18 | " " | | | | | 1 | | 1 | 1 | | 1 | | | | 1 | 4 | 2 | | |
| Males | | | | | | | | | | | | | | | 1 | | | | | Heart, Ossification of | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | | | | 2 | | Heart, Palpitation of | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 2 | 1 | | 2 | | " " | | | | | | | | | | | | | | | | | |
| Total | 2 | 1 | 5 | 3 | 2 | | 2 | 1 | 1 | | 2 | 1 | | 20 | 23 | 28 | 31 | 35 | 33 | Heart, Paralysis of | | | | | 1 | | | | | | 2 | 2 | 7 | 4 | 2 | 2 | |
| Males | 1 | 1 | 3 | 1 | 1 | | 1 | 1 | 1 | | 1 | 1 | | 12 | 13 | 10 | 19 | 15 | 19 | " " | | | | | 1 | | | | | | 2 | 1 | 3 | 2 | 2 | 1 | |
| Females | 1 | | 2 | 2 | 1 | | 1 | | | | 1 | | | 8 | 10 | 18 | 12 | 20 | 14 | " " | | | | | | | | | | | | | 1 | 4 | 2 | | 1 | |
| Females | | | | | | 1 | | | | | 1 | | | 2 | | | | | | Heart, Pericarditis of | | 1 | | | | | | 1 | | | | | | | | | |
| Total | 5 | 3 | 2 | 3 | 4 | 2 | 1 | 3 | 1 | 3 | 2 | | | 29 | 21 | 16 | 38 | 39 | 38 | Heart, Rheumatism of* | 1 | 1 | 3 | | 1 | | 2 | 2 | | 3 | 2 | 3 | 1 | | 3 | 4 | 1 | 2 |
| Males | 5 | 2 | 1 | 2 | 3 | 2 | | 2 | | 1 | | | | 18 | 15 | 7 | 27 | 24 | 29 | " " | 1 | | 1 | | 1 | | 2 | | | 1 | 1 | 3 | | | 3 | 3 | 1 | 1 |
| Females | | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 2 | 2 | | | 11 | 6 | 9 | 11 | 15 | 9 | " " | | 1 | 2 | | | | | 2 | | 2 | 1 | | 1 | | | 1 | 1 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Males | | | | | 1 | | | | | | | | | 1 | 1 | 1 | 3 | | 3 | Heart, Rupture of | | | | | | | | | | 1 | | | | | | | | |
| Females | | | | | | | | | | | | | | | | | 1 | | | " " | | | | | | | | | | | | | | | | | | |
| Total | | | 1 | | | 2 | 1 | 2 | | | 1 | 1 | | 8 | 7 | 1 | 4 | 3 | 10 | Heart, Valvular disease of | | | | | 1 | 1 | | | | 3 | | | | 2 | 1 | | | |
| Males | | | 1 | | | 2 | | 1 | | | 1 | 1 | | 6 | 4 | 1 | 3 | 3 | 5 | " " " | | | | | 1 | | | | | 3 | | | | 2 | | | | |
| Females | | | | | | | 1 | 1 | | | | | | 2 | 3 | | 1 | | 5 | " " " | | | | | | 1 | | | | | | | | | 1 | | | |
| Total | 4 | | 7 | 4 | 7 | 5 | 5 | 4 | 2 | 3 | 4 | 3 | | 45 | 14 | 31 | 21 | 31 | 16 | Hemorrhage | 13 | 1 | 1 | 1 | 1 | | 3 | 4 | 3 | 4 | 3 | 2 | 4 | 4 | 3 | 1 | | |
| Males | 3 | | 5 | 3 | 2 | 5 | 4 | 1 | 1 | 2 | 2 | 2 | | 30 | 10 | 14 | 11 | 21 | 10 | " | 7 | 1 | | 1 | 1 | | 1 | 2 | 3 | 3 | 2 | 1 | 3 | 2 | 3 | | | |
| Females | 1 | | 2 | 1 | 5 | | 1 | 3 | 1 | 1 | 2 | 1 | | 18 | 4 | 17 | 10 | 10 | 6 | " | 6 | | 1 | | | | 2 | 2 | | 1 | 1 | 1 | 1 | 2 | | 1 | | |
| Total | 4 | 2 | 3 | 2 | 4 | 1 | 4 | 3 | 1 | 3 | 1 | 6 | 1 | 35 | 35 | 36 | 44 | 37 | 26 | Hernia | 5 | | | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 3 | 3 | 3 | 6 | 2 | 2 | 1 | 2 |
| Males | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 3 | 1 | 3 | 1 | 5 | | 27 | 16 | 28 | 33 | 23 | 14 | " | 5 | | | 1 | 1 | 1 | | 1 | 2 | 1 | 2 | 1 | 2 | 6 | 1 | 2 | | 1 |
| Females | 1 | | 1 | | 2 | | 2 | | | | | 1 | 1 | 8 | 19 | 8 | 11 | 14 | 12 | " | | | | | | | 1 | | | | 1 | 2 | 1 | | 1 | | 1 | 1 |
| Males | | | | | | | | | | | | | | | | | | | 1 | Hiccough | | | | | | | | | | | | | | | | | | |
| Total | 1 | | | | 1 | 1 | | 1 | 2 | | 1 | 2 | | 9 | 14 | 8 | 9 | 9 | 7 | Hip, Disease of | 3 | | | | 2 | 1 | 1 | 1 | | | | | | 1 | | | | |
| Males | 1 | | | | | | | | 1 | | 1 | 2 | | 5 | 6 | 2 | 3 | 5 | 5 | " " | | | | | 2 | 1 | 1 | 1 | | | | | | | | | | |
| Females | | | | | 1 | 1 | | 1 | 1 | | | | | 4 | 8 | 5 | 7 | 4 | 2 | " " | 3 | | | | | | | | | | | | | 1 | | | | |
| Females | | | | | | | | | | | 1 | | | 1 | 1 | | | | | Hodgkin's disease | | | | | 1 | | | | | | | | | | | | | |
| Total | 1 | | 1 | 2 | 2 | | 1 | 1 | | | 4 | 5 | | 17 | 15 | 14 | 32 | 14 | 29 | Homicide | | 1 | | 1 | 1 | 3 | 1 | 3 | 1 | 1 | 1 | 3 | | | | 1 | | |
| Males | 1 | | | 2 | 1 | | 1 | | | | 4 | 3 | | 12 | 11 | 12 | 24 | 13 | 22 | " | | 1 | | | 1 | 3 | 1 | 3 | | | | 2 | | | | 1 | | |
| Females | | | 1 | | 1 | | | 1 | | | | 2 | | 5 | 4 | 2 | 8 | 1 | 7 | " | | | | 1 | | | | | 1 | 1 | 1 | 1 | | | | | | |
| Males | | | | | | | | | | | | | | | 2 | 2 | | | 2 | Hydrophobia | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | | | | 1 | | " | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | | | | | Hysteria | | | | | | | | | | | | | | | | | | |
| Total | 1 | 1 | 1 | 5 | 5 | 1 | 1 | 8 | 9 | | 3 | 3 | 1 | 39 | 17 | 19 | 9 | 19 | 9 | Inanition | 35 | | | | | | 1 | | 1 | 1 | 1 | | | | | | | |
| Males | | | 1 | 4 | 2 | 1 | 1 | 1 | 4 | | 3 | 1 | | 18 | 7 | 12 | 3 | 11 | 7 | " | 14 | | | | | | 1 | | 1 | 1 | 1 | | | | | | | |
| Females | 1 | 1 | | 1 | 3 | | | 7 | 5 | | | 2 | 1 | 21 | 10 | 7 | 6 | 8 | 2 | " | 21 | | | | | | | | | | | | | | | | | |

* Included under rheumatism in Tables 69, 70, 71 and 89.

**Table 90.—CONTINUED.—*Causes of death.—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | Years, 1887–1892. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total | 3 | | 1 | 1 | | 2 | 1 | 2 | 4 | 4 | 1 | | | 19 | 19 | 23 | 14 | 16 | 29 | Indigestion | 18 | | | | | | | | | | | | | | | 1 | |
| Males | 2 | | 1 | | | 2 | 1 | 1 | 4 | 3 | 1 | | | 15 | 8 | 12 | 8 | 8 | 20 | " | 14 | | | | | | | | | | | | | | | 1 | |
| Females | 1 | | | 1 | | | | 1 | | 1 | | | | 4 | 11 | 11 | 6 | 8 | 9 | " | 4 | | | | | | | | | | | | | | | | |
| Total | | | 3 | 2 | 3 | 2 | | 2 | | | | | | 12 | 16 | 127 | 621 | 643 | 658 | Infantile* | 11 | | | | | | | | | | | | | | | | 1 |
| Males | | | 2 | | 1 | 2 | | | | | | | | 5 | 11 | 74 | 355 | 396 | 407 | " | 4 | | | | | | | | | | | | | | | | 1 |
| Females | | | 1 | 2 | 2 | | | 2 | | | | | | 7 | 5 | 50 | 263 | 246 | 250 | " | 7 | | | | | | | | | | | | | | | | |
| Unknown | | | | | | | | | | | | | | | | 3 | 3 | 1 | 1 | " | | | | | | | | | | | | | | | | | |
| Total | 3 | 4 | 4 | 4 | 2 | 1 | 6 | 5 | 4 | 6 | 6 | 7 | | 52 | 38 | 69 | 47 | 40 | 43 | Inflammation | 31 | 1 | 1 | 1 | 2 | 3 | 4 | 2 | 2 | | | 1 | 1 | 1 | | 1 | 1 | |
| Males | | 2 | 1 | 2 | 2 | 1 | 2 | 3 | 2 | 3 | 4 | 5 | | 27 | 21 | 29 | 23 | 19 | 18 | " | 17 | 1 | | 1 | 1 | | 3 | 2 | | | | | 1 | | 1 | | | |
| Females | 3 | 2 | 3 | 2 | | | 4 | 2 | 2 | 3 | 2 | 2 | | 25 | 16 | 40 | 24 | 21 | 25 | " | 14 | | 1 | | 1 | 3 | 1 | | 2 | | | 1 | 1 | | | 1 | | |
| Unknown | | | | | | | | | | | | | | | 1 | | | | | " | | | | | | | | | | | | | | | | | | |
| Total | 351 | 209 | 99 | 58 | 35 | 24 | 18 | 19 | 17 | 19 | 30 | 28 | | 907 | 1076 | 1084 | 176 | 2 | 2 | Influenza | 125 | 12 | 13 | 19 | 15 | 16 | 16 | 30 | 30 | 26 | 48 | 36 | 66 | 86 | 99 | 135 | 130 | 5 |
| Males | 189 | 118 | 48 | 24 | 18 | 11 | 8 | 11 | 13 | 11 | 17 | 10 | | 478 | 569 | 575 | 96 | 1 | 1 | " | 75 | 7 | 4 | 10 | 8 | 7 | 6 | 9 | 16 | 13 | 23 | 17 | 34 | 45 | 58 | 75 | 67 | 4 |
| Females | 162 | 91 | 51 | 34 | 17 | 13 | 10 | 8 | 4 | 8 | 13 | 18 | | 429 | 507 | 509 | 80 | 1 | 1 | " | 50 | 5 | 9 | 9 | 7 | 9 | 10 | 21 | 14 | 13 | 25 | 19 | 32 | 41 | 41 | 60 | 63 | 1 |
| **Total** | 2 | 8 | 3 | 5 | 3 | 5 | 3 | 2 | 4 | 7 | 6 | 5 | | 53 | 39 | 30 | 26 | 26 | 33 | **Insanity** | | | | 1 | | 4 | 4 | 9 | 7 | 6 | 5 | 6 | 5 | 2 | 2 | 1 | | 1 |
| **Males** | 2 | 5 | 2 | 5 | 1 | 3 | 2 | 2 | 3 | 3 | 4 | 3 | | 35 | 20 | 14 | 13 | 12 | 10 | " | | | | 1 | | 1 | 2 | 6 | 5 | 6 | 4 | 2 | 4 | 2 | 1 | | | 1 |
| **Females** | | 3 | 1 | | 2 | 2 | 1 | | 1 | 4 | 2 | 2 | | 18 | 19 | 16 | 13 | 14 | 23 | " | | | | | | 3 | 2 | 3 | 2 | | 1 | 4 | 1 | | 1 | 1 | | | |
| **Total** | 4 | 5 | 1 | 2 | 2 | 1 | 6 | 3 | 2 | 3 | 1 | 3 | | 34 | 27 | 21 | 18 | 19 | 15 | **Intemperance** | | | | 1 | 1 | 3 | 6 | | 3 | 3 | 5 | 5 | 2 | 2 | 1 | 1 | | 1 |
| **Males** | 4 | 5 | 1 | 2 | 2 | 1 | 6 | 3 | | 3 | 1 | 3 | | 32 | 23 | 21 | 13 | 18 | 14 | " | | | | 1 | 1 | 3 | 6 | | 3 | 3 | 4 | 4 | 2 | 2 | 1 | 1 | | 1 |
| **Females** | | | | | | | | | 2 | | | | | 2 | 4 | | 5 | 1 | 1 | " | | | | | | | | | | 1 | 1 | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | ... | 1 | 1 | 2 | 3 | 4 | 1 | ... | 1 | ... | 3 | 2 | .. | 18 | 38 | 29 | 31 | 21 | 23 | Jaundice | 1 | 2 | ... | ... | ... | ... | 1 | 1 | ... | 2 | 1 | 1 | 8 | 1 | 2 | 1 | 2 | .. |
| Males | ... | ... | ... | 1 | 1 | 3 | 1 | ... | ... | ... | 2 | ... | .. | 8 | 19 | 19 | 17 | 9 | 11 | " | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .. | 1 | 1 | 1 | 1 | .. |
| Females | ... | 1 | 1 | 1 | 2 | 1 | ... | ... | 1 | ... | 1 | 2 | .. | 10 | 19 | 10 | 14 | 12 | 12 | " | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 2 | 1 | .. | 3 | .. | 1 | ... | 1 | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | .... | 5 | .... | .... | .... | Joint, Disease of | ... | * | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | .... | 1 | .... | 1 | .... | " " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | .. | 1 | .... | 2 | 1 | 2 | .... | Kidneys, Abscess of | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .. |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | .. | 1 | 1 | .... | 1 | .... | .... | " " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | .. |
| Total | 35 | 29 | 26 | 25 | 29 | 27 | 23 | 20 | 24 | 29 | 25 | 27 | .. | 319 | 257 | 219 | 229 | 210 | 205 | Kidneys, Bright's dis. of | 6 | 5 | 2 | 6 | 17 | 14 | 12 | 12 | 13 | 15 | 28 | 24 | 42 | 39 | 38 | 28 | 18 | 5 |
| Males | 27 | 25 | 16 | 16 | 22 | 20 | 17 | 15 | 16 | 21 | 19 | 21 | .. | 235 | 207 | 162 | 163 | 159 | 155 | " " " " | 3 | ... | ... | 6 | 9 | 8 | 10 | 8 | 9 | 11 | 16 | 20 | 30 | 31 | 35 | 23 | 15 | 1 |
| Females | 8 | 4 | 10 | 9 | 7 | 7 | 6 | 5 | 8 | 8 | 6 | 6 | .. | 84 | 50 | 57 | 66 | 51 | 50 | " " " " | 3 | 5 | 2 | ... | 8 | 6 | 2 | 4 | 4 | 4 | 7 | 4 | 12 | 8 | 3 | 5 | 3 | 4 |
| Total | 5 | 10 | 7 | 4 | 11 | 5 | 6 | 10 | 7 | 9 | 11 | 11 | .. | 96 | 120 | 96 | 99 | 103 | 97 | Kidneys, Disease of | 7 | 3 | 1 | ... | 3 | 2 | 6 | 2 | 2 | 6 | 5 | 8 | 10 | 6 | 10 | 10 | 14 | 1 |
| Males | 5 | 7 | 7 | 1 | 8 | 3 | 3 | 8 | 7 | 5 | 10 | 8 | .. | 72 | 89 | 78 | 78 | 84 | 77 | " " " | 3 | 2 | 1 | ... | 2 | 1 | 3 | 1 | 1 | 4 | 3 | 6 | 9 | 6 | 9 | 8 | 12 | 1 |
| Females | ... | 3 | ... | 3 | 3 | 2 | 3 | 2 | ... | 4 | 1 | 3 | .. | 24 | 31 | 18 | 21 | 19 | 20 | " " " | 4 | 1 | ... | ... | 1 | 1 | 3 | 1 | 1 | 2 | 2 | 2 | 1 | .. | 1 | 2 | 2 | .. |
| Males | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | 1 | 1 | .... | .... | .... | .... | Kidneys, Hemorrhage of | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | .. |
| Total | ... | 1 | 1 | 2 | 1 | ... | 1 | ... | 2 | ... | 2 | 3 | .. | 13 | 14 | 8 | 13 | 31 | 21 | Kidneys, Inflammation of | 1 | 2 | ... | ... | 1 | ... | 1 | 2 | ... | ... | .. | 1 | .. | 2 | .. | 1 | 1 | 1 |
| Males | ... | ... | ... | 1 | ... | ... | 1 | ... | 1 | ... | 1 | 2 | .. | 6 | 10 | 6 | 10 | 24 | 14 | " " " | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | ... | .. | .. | .. | 1 | .. | 1 | ... | 1 |
| Females | ... | 1 | 1 | 1 | 1 | ... | ... | ... | 1 | ... | 1 | 1 | .. | 7 | 4 | 2 | 3 | 7 | 7 | " " " | ... | 2 | ... | ... | 1 | ... | 1 | ... | ... | ... | .. | 1 | .. | 1 | .. | ... | 1 | .. |
| Males | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | .. | 3 | 1 | 2 | .... | 2 | .... | Laryngitis | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | .. | 1 | .. | .. | .. | ... | ... | 1 |
| Females | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | .. | 3 | 3 | 1 | 1 | 1 | .... | " | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | | .. | .. | ... | ... | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .... | 4 | .... | .... | .... | .... | Laryngitis, Tubercular | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | .. | .. | .. | .. | ... | | .. |
| Females | ... | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | .. | 3 | 1 | .... | .... | .... | .... | " " | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | .. | .. | .. | 1 | .. | ... | ... | .. |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | .. | 1 | .... | .... | .... | .... | .... | Leucocythæmia | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | .. | .. | .. | .. | .. | ... | ... | .. |
| Total | 1 | 1 | 2 | 1 | 1 | 1 | ... | 1 | 1 | 2 | ... | ... | .. | 11 | 20 | 7 | 6 | 12 | 9 | Liver, Abscess of | ... | ... | ... | 1 | 1 | 1 | ... | ... | 2 | 3 | 1 | 1 | .. | .. | .. | 1 | ... | .. |
| Males | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | .. | 3 | 13 | 2 | 2 | 7 | 3 | " " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | .. | 1 | .. | .. | .. | ... | ... | .. |
| Females | ... | 1 | 2 | ... | 1 | 1 | ... | 1 | 1 | 1 | ... | ... | .. | 8 | 7 | 5 | 4 | 5 | 6 | " " " | ... | ... | ... | 1 | 1 | 1 | ... | ... | 2 | 1 | 1 | .. | .. | .. | .. | 1 | ... | .. |

* For explanation of decrease in number of deaths compiled under this title for the years 1890-92, see p. 206.

**Table 90.—CONTINUED.—*Causes of death.—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | Years, 1887–1892. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total | 3 | ... | 1 | 1 | ... | 2 | 1 | 2 | 4 | 4 | 1 | ... | .. | 19 | 19 | 23 | 14 | 16 | 29 | Indigestion | 18 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .. |
| Males | 2 | ... | 1 | ... | ... | 2 | 1 | 1 | 4 | 3 | 1 | ... | .. | 15 | 8 | 12 | 8 | 8 | 20 | " | 14 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .. |
| Females | 1 | ... | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... | ... | .. | 4 | 11 | 11 | 6 | 8 | 9 | " | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. |
| Total | ... | ... | 3 | 2 | 3 | 2 | ... | 2 | ... | ... | ... | ... | .. | 12 | 16 | 127 | 621 | 649 | 658 | Infantile* | 11 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Males | ... | ... | 2 | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | .. | 5 | 11 | 74 | 355 | 396 | 407 | " | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Females | ... | ... | 1 | 2 | 2 | ... | ... | 2 | ... | ... | ... | ... | .. | 7 | 5 | 50 | 263 | 246 | 250 | " | 7 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. |
| Unknown | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | 3 | 3 | 1 | 1 | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. |
| Total | 3 | 4 | 4 | 4 | 2 | 1 | 6 | 5 | 4 | 6 | 6 | 7 | .. | 52 | 38 | 69 | 47 | 40 | 43 | Inflammation | 31 | 1 | 1 | 1 | 2 | 3 | 4 | 2 | 2 | ... | ... | 1 | 1 | 1 | .. | 1 | 1 | .. |
| Males | ... | 2 | 1 | 2 | 2 | 1 | 2 | 3 | 2 | 3 | 4 | 5 | .. | 27 | 21 | 29 | 23 | 19 | 18 | " | 17 | 1 | ... | 1 | 1 | ... | 3 | 2 | ... | ... | ... | ... | 1 | .. | 1 | ... | ... | .. |
| Females | 3 | 2 | 3 | 2 | ... | ... | 4 | 2 | 2 | 3 | 2 | 2 | .. | 25 | 16 | 40 | 24 | 21 | 25 | " | 14 | ... | 1 | ... | 1 | 3 | 1 | ... | 2 | ... | ... | 1 | 1 | ... | ... | ... | 1 | .. |
| Unknown | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | 1 | ... | ... | ... | ... | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. |
| Total | 351 | 209 | 99 | 58 | 35 | 24 | 18 | 19 | 17 | 19 | 30 | 28 | .. | 907 | 1076 | 1084 | 176 | 2 | 2 | Influenza | 125 | 12 | 13 | 19 | 15 | 16 | 16 | 30 | 30 | 26 | 48 | 38 | 66 | 86 | 99 | 135 | 130 | 5 |
| Males | 189 | 118 | 48 | 24 | 18 | 11 | 8 | 11 | 13 | 11 | 17 | 10 | .. | 478 | 569 | 575 | 96 | 1 | 1 | " | 75 | 7 | 4 | 10 | 8 | 7 | 6 | 9 | 16 | 13 | 23 | 17 | 34 | 45 | 58 | 75 | 67 | 4 |
| Females | 162 | 91 | 51 | 34 | 17 | 13 | 10 | 8 | 4 | 8 | 13 | 18 | .. | 429 | 507 | 509 | 80 | 1 | 1 | " | 50 | 5 | 9 | 9 | 7 | 9 | 10 | 21 | 14 | 13 | 25 | 19 | 32 | 41 | 41 | 60 | 63 | 1 |
| Total | 2 | 8 | 3 | 5 | 3 | 5 | 3 | 2 | 4 | 7 | 6 | 5 | .. | 53 | 39 | 30 | 26 | 26 | 33 | Insanity | ... | ... | ... | 1 | ... | 4 | 4 | 9 | 7 | 6 | 5 | 6 | 5 | 2 | 2 | 1 | ... | 1 |
| Males | 2 | 5 | 2 | 5 | 1 | 3 | 2 | 2 | 3 | 3 | 4 | 3 | .. | 35 | 20 | 14 | 13 | 12 | 10 | " | ... | ... | ... | 1 | ... | 1 | 2 | 6 | 5 | 6 | 4 | 2 | 4 | 2 | 1 | ... | ... | 1 |
| Females | ... | 3 | 1 | ... | 2 | 2 | 1 | ... | 1 | 4 | 2 | 2 | .. | 18 | 19 | 16 | 13 | 14 | 23 | " | ... | ... | ... | ... | ... | 3 | 2 | 3 | 2 | ... | 1 | 4 | 1 | ... | 1 | 1 | ... | .. |
| Total | 4 | 5 | 1 | 2 | 2 | 1 | 6 | 3 | 2 | 3 | 1 | 3 | 1 | 34 | 27 | 21 | 18 | 19 | 15 | Intemperance | ... | ... | ... | 1 | 1 | 3 | 6 | ... | 3 | 3 | 5 | 5 | 2 | 2 | 1 | 1 | ... | 1 |
| Males | 4 | 5 | 1 | 2 | 2 | 1 | 6 | 3 | ... | 3 | 1 | 3 | 1 | 32 | 23 | 21 | 13 | 18 | 14 | " | ... | ... | ... | 1 | 1 | 3 | 6 | ... | 3 | 3 | 4 | 4 | 2 | 2 | 1 | 1 | ... | 1 |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 2 | 4 | ... | 5 | 1 | 1 | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | | 1 | 1 | 2 | 3 | 4 | 1 | | 1 | | 3 | 2 | | 18 | 38 | 29 | 31 | 21 | 28 | Jaundice | 1 | 2 | | | | | 1 | 1 | | 2 | 1 | 1 | 3 | 1 | 2 | 1 | 2 | |
| Males | | | | 1 | 1 | 3 | 1 | | | | 2 | | | 8 | 19 | 19 | 17 | 9 | 11 | " | 1 | 2 | | | | | | | | | | 1 | | 1 | 1 | 1 | 1 | |
| Females | | 1 | 1 | 1 | 2 | 1 | | | 1 | | 1 | 2 | | 10 | 19 | 10 | 14 | 12 | 12 | " | | | | | | | 1 | 1 | | 2 | 1 | | 3 | | 1 | | 1 | |
| Males | | | | | | | | | | | | | | | | 5 | | | | Joint, Disease of | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | | 1 | | 1 | | " " " | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | 1 | | | | | 1 | | 2 | 1 | 2 | | Kidneys, Abscess of | | | | | | | | | | | | | | | | | 1 | |
| Females | | | | | | | | | | 1 | | | | 1 | 1 | | 1 | | | " " " | | | | | | | | | | 1 | | | | | | | | |
| Total | 35 | 29 | 26 | 25 | 29 | 27 | 23 | 20 | 24 | 29 | 25 | 27 | | 319 | 257 | 219 | 229 | 210 | 205 | Kidneys, Bright's dis. of | 6 | 5 | 2 | 6 | 17 | 14 | 12 | 12 | 13 | 15 | 23 | 24 | 42 | 39 | 38 | 28 | 18 | 5 |
| Males | 27 | 25 | 16 | 16 | 22 | 20 | 17 | 15 | 16 | 21 | 19 | 21 | | 235 | 207 | 162 | 163 | 159 | 155 | " " " " | 3 | | | 6 | 9 | 8 | 10 | 8 | 9 | 11 | 16 | 20 | 30 | 31 | 35 | 23 | 15 | 1 |
| Females | 8 | 4 | 10 | 9 | 7 | 7 | 6 | 5 | 8 | 8 | 6 | 6 | | 84 | 50 | 57 | 66 | 51 | 50 | " " " " | 3 | 5 | 2 | | 8 | 6 | 2 | 4 | 4 | 4 | 7 | 4 | 12 | 8 | 3 | 5 | 3 | 4 |
| Total | 5 | 10 | 7 | 4 | 11 | 5 | 6 | 10 | 7 | 9 | 11 | 11 | | 96 | 120 | 96 | 99 | 103 | 97 | Kidneys, Disease of | 7 | 3 | 1 | | 3 | 2 | 6 | 2 | 2 | 6 | 5 | 8 | 10 | 6 | 10 | 10 | 14 | 1 |
| Males | 5 | 7 | 7 | 1 | 8 | 3 | 3 | 8 | 7 | 5 | 10 | 8 | | 72 | 89 | 78 | 78 | 84 | 77 | " " " | 3 | 2 | 1 | | 2 | 1 | 3 | 1 | 1 | 4 | 3 | 6 | 9 | 6 | 9 | 8 | 12 | 1 |
| Females | | 3 | | 3 | 3 | 2 | 3 | 2 | | 4 | 1 | 3 | | 24 | 31 | 18 | 21 | 19 | 20 | " " " | 4 | 1 | | | 1 | 1 | 3 | 1 | 1 | 2 | 2 | 2 | 1 | | 1 | 2 | 2 | |
| Males | 1 | | | | | | | | | | | | | 1 | 1 | | | | | Kidneys, Hemorrhage of | | | | | | | | | | | | | | | 1 | | | |
| Total | | 1 | 1 | 2 | 1 | | 1 | | 2 | | 2 | 3 | | 13 | 14 | 8 | 13 | 31 | 21 | Kidneys, Inflammation of | 1 | 2 | | | 1 | | 1 | 2 | | | | 1 | | 2 | | 1 | 1 | 1 |
| Males | | | | 1 | | | 1 | | 1 | | 1 | 2 | | 6 | 10 | 6 | 10 | 24 | 14 | " " " | 1 | | | | | | | 2 | | | | | | 1 | | 1 | | 1 |
| Females | | 1 | 1 | 1 | 1 | | | | 1 | | 1 | 1 | | 7 | 4 | 2 | 3 | 7 | 7 | " " " | | 2 | | | 1 | | 1 | | | | | 1 | | 1 | | | 1 | |
| Males | | | 1 | | 1 | | | | | | | 1 | | 3 | 1 | 2 | | 2 | | Laryngitis | | | | | | | | 1 | | | | 1 | | | | | | 1 |
| Females | | 1 | | 2 | | | | | | | | | | 3 | 2 | 1 | 1 | 1 | | " | 2 | 1 | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 4 | | | | | Laryngitis, Tubercular | | | | | | | | | | | | | | | | | | |
| Females | | | 1 | | | | 1 | 1 | | | | | | 3 | 1 | | | | | " " | | | | 1 | | | 1 | | | | | | | 1 | | | | |
| Males | | | | | | | | | | | 1 | | | 1 | | | | | | Leucocythæmia | | | | | | | 1 | | | | | | | | | | | |
| Total | 1 | 1 | 2 | 1 | 1 | 1 | | 1 | 1 | 2 | | | | 11 | 20 | 7 | 6 | 12 | 9 | Liver, Abscess of | | | | 1 | 1 | 1 | | | 2 | 3 | 1 | 1 | | | | 1 | | |
| Males | 1 | | | 1 | | | | | | 1 | | | | 3 | 13 | 2 | 2 | 7 | 3 | " " " | | | | | | | | | | 2 | | 1 | | | | | | |
| Females | | 1 | 2 | | 1 | 1 | | 1 | 1 | 1 | | | | 8 | 7 | 5 | 4 | 5 | 6 | " " " | | | | 1 | 1 | 1 | | | 2 | 1 | 1 | | | | | 1 | | |

* For explanation of decrease in number of deaths compiled under this title for the years 1890-92, see p. 206.

**Table 90.—CONTINUED.—*Causes of death—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total | | | | | | | 1 | | 1 | 1 | | | | 3 | 2 | 5 | 5 | 7 | 4 | Liver, Cirrhosis of | | | | | | | 1 | | 1 | 1 | | | | | | | |
| Males | | | | | | | 1 | | | | | | | 1 | | 3 | 4 | 4 | 3 | " " " | | | | | | | | | 1 | | | | | | | | |
| Females | | | | | | | | | 1 | 1 | | | | 2 | 2 | 2 | 1 | 3 | 1 | " " " | | | | | | | 1 | | | 1 | | | | | | |
| Total | | 1 | 1 | 1 | 1 | 1 | | | 1 | | 1 | | | 7 | 8 | | | | | Liver, Congestion of | | | | | 1 | | 1 | | | 1 | | 2 | | 1 | 1 | | |
| Males | | | | 1 | 1 | | | | 1 | | 1 | | | 4 | 2 | | | | | " " | | | | | 1 | | 1 | | | 1 | | | | 1 | | | |
| Females | | 1 | 1 | | | 1 | | | | | | | | 3 | 6 | | | | | " " | | | | | | | | | | | | 2 | | 1 | | | |
| Total | 4 | 3 | 4 | 6 | 5 | 5 | 5 | 7 | 2 | 5 | 3 | 2 | | 51 | 71 | 79 | 88 | 87 | 86 | Liver, Disease of | 3 | 2 | | | | | 3 | 2 | 2 | 5 | 4 | 4 | 7 | 12 | 2 | 4 | | 1 |
| Males | 1 | 1 | 2 | 3 | 2 | 2 | 2 | 5 | | 1 | 2 | 2 | | 23 | 46 | 43 | 57 | 50 | 48 | " " | 1 | | | | | | 1 | | | 2 | 4 | 4 | 2 | 6 | | 2 | | 1 |
| Females | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 2 | 2 | 4 | 1 | | | 28 | 25 | 36 | 31 | 37 | 38 | " " | 2 | 2 | | | | | 2 | 2 | 2 | 3 | | | 5 | 6 | 2 | 2 | | |
| Total | | 2 | 1 | 2 | 3 | | 2 | | 1 | 1 | 1 | 1 | | 14 | 16 | 12 | 16 | 25 | 11 | Liver, Enlargement of | | | | | | 2 | 1 | | | 1 | | 2 | 3 | 4 | 1 | | |
| Males | | 1 | | 2 | 1 | | 2 | | | | 1 | 1 | | 8 | 9 | 5 | 11 | 13 | 4 | " " | | | | | | 1 | | | | 1 | | 1 | 2 | 3 | | | |
| Females | | 1 | 1 | | 2 | | | | 1 | 1 | | | | 6 | 7 | 7 | 5 | 12 | 7 | " " | | | | | | 1 | 1 | | | | | 1 | 1 | 1 | 1 | | |
| Total | | 1 | 1 | | 1 | | | 2 | | 2 | | | | 7 | 4 | 6 | 6 | 13 | 14 | Liver, Inflammation of | 1 | | | | 1 | | | 1 | 1 | | | | 2 | 1 | | | |
| Males | | | 1 | | 1 | | | 1 | | 2 | | | | 5 | 1 | 3 | 5 | 8 | 9 | " " | 1 | | | | | | | 1 | 1 | | | | 1 | 1 | | | |
| Females | | 1 | | | | | | 1 | | | | | | 2 | 3 | 3 | 1 | 5 | 5 | " " | | | | | 1 | | | | | | | | 1 | | | | |
| Males | | | | | | | | | | | | | | | 1 | | | | | Loss of mother | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 1 | | | | | Lumbago | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | | | | | " | | | | | | | | | | | | | | | | | |
| Total | 1 | | 1 | 1 | 1 | | | 1 | 1 | 1 | | 2 | | 9 | 7 | 9 | 6 | 9 | 4 | Lungs, Abscess of | 2 | 1 | | | | | 1 | | | | 1 | 1 | 1 | | 2 | | |
| Males | | | 1 | 1 | 1 | | | | 1 | | | 2 | | 6 | 5 | 3 | 3 | 4 | 4 | " " | 2 | 1 | | | | | 1 | | | | 1 | | | 1 | | | |
| Females | 1 | | | | | | | 1 | | 1 | | | | 3 | 2 | 6 | 3 | 5 | | " " | | | | | | | | | | 1 | | 1 | | 1 | | | |
| Males | | 1 | | | | | | | | | | | | 1 | 2 | | | | 1 | Lungs, Collapse of | 1 | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 17 | 9 | 10 | 4 | 6 | 3 | 3 | 3 | 6 | 7 | 9 | 10 | ... | 87 | 99 | ... | ... | ... | ... | Lungs, Congestion of* | 41 | 3 | ... | 1 | 2 | 2 | 2 | 3 | 1 | 4 | 4 | 5 | 3 | 7 | 3 | 1 | 4 | 1 |
| Males | 10 | 4 | 6 | 2 | 4 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | ... | 48 | 46 | ... | ... | ... | ... | " " | 24 | 1 | ... | ... | 2 | 1 | 1 | 1 | 1 | 3 | 2 | 3 | 1 | 2 | 2 | 1 | 2 | 1 |
| Females | 7 | 5 | 4 | 2 | 2 | 2 | 2 | 1 | 3 | 3 | 4 | 4 | ... | 39 | 53 | ... | ... | ... | ... | " " | 17 | 2 | ... | 1 | ... | 1 | 1 | 2 | ... | 1 | 2 | 2 | 2 | 5 | 1 | ... | 2 | ... |
| Total | 3 | 4 | 4 | 5 | 8 | 3 | 5 | 5 | 8 | 3 | 3 | 5 | ... | 56 | 71 | 555 | 200 | 230 | 229 | Lungs, Disease of* | 22 | 4 | 1 | 2 | 2 | ... | 2 | 3 | 1 | 1 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | ... |
| Males | 2 | 3 | 3 | 2 | 2 | 1 | 3 | 3 | 5 | ... | 3 | 4 | ... | 31 | 36 | 304 | 112 | 135 | 145 | " " | 9 | 2 | 1 | 2 | 1 | ... | ... | ... | 1 | 1 | 2 | 1 | 2 | 2 | 3 | 2 | 2 | ... |
| Females | 1 | 1 | 1 | 3 | 6 | 2 | 2 | 2 | 3 | 3 | ... | 1 | ... | 25 | 35 | 249 | 88 | 95 | 84 | " " | 13 | 2 | ... | ... | 1 | ... | 2 | 3 | ... | ... | 1 | 1 | ... | 1 | ... | 1 | ... | ... |
| Unknown | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 3 | 2 | 5 | 2 | 4 | 3 | 2 | 1 | 4 | 3 | 1 | 1 | ... | 31 | 32 | 39 | 36 | 27 | 40 | Lungs, Hemorrhage of | 2 | 1 | 1 | 1 | 1 | 3 | 4 | 2 | 1 | 3 | 4 | 1 | 1 | 1 | 3 | ... | 2 | ... |
| Males | 2 | 1 | 3 | 2 | 4 | 3 | 2 | 1 | 4 | 1 | ... | 1 | ... | 24 | 22 | 23 | 27 | 17 | 25 | " " | 2 | 1 | 1 | 1 | ... | 3 | 4 | ... | ... | 3 | 3 | 1 | 1 | 1 | 2 | ... | 1 | ... |
| Females | 1 | 1 | 2 | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | ... | 7 | 10 | 16 | 9 | 10 | 15 | " " | ... | ... | ... | ... | 1 | ... | ... | 2 | 1 | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... |
| Males | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | 3 | 1 | ... | ... | ... | ... | Lungs, Œdema of | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Total | 1 | ... | ... | 1 | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | 6 | 7 | ... | 12 | 11 | 11 | Malformation | 6 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | 1 | ... | ... | ... | 2 | ... | ... | ... | 1 | 1 | ... | ... | ... | 5 | 4 | ... | 4 | 6 | 4 | " | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 3 | ... | 8 | 5 | 7 | " | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 2 | 9 | 5 | 7 | 17 | 13 | 13 | 17 | 5 | 10 | 9 | 2 | ... | 109 | 90 | 74 | 16 | 30 | 21 | Marasmus | 106 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| Males | ... | 7 | 5 | 3 | 8 | 7 | 4 | 7 | 4 | 3 | 7 | 1 | ... | 56 | 39 | 36 | 7 | 17 | 15 | " | 54 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Females | 2 | 2 | ... | 4 | 9 | 6 | 9 | 10 | 1 | 7 | 2 | 1 | ... | 53 | 51 | 38 | 9 | 13 | 6 | " | 52 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Total | 4 | 6 | 10 | 19 | 8 | 7 | 1 | 1 | 5 | 3 | 4 | 2 | 2 | 72 | 225 | 229 | 104 | 414 | 285 | Measles | 58 | 5 | ... | 2 | 2 | ... | 2 | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... |
| Males | 2 | 2 | 4 | 12 | 3 | 4 | 1 | 1 | 1 | 3 | 2 | ... | 1 | 36 | 116 | 120 | 51 | 192 | 163 | " | 29 | 3 | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... |
| Females | 2 | 4 | 6 | 7 | 5 | 3 | ... | ... | 4 | ... | 2 | 2 | 1 | 36 | 109 | 109 | 53 | 221 | 122 | " | 29 | 2 | ... | ... | 1 | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Unknown | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | Measles, German | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 2 | 5 | 4 | 2 | 4 | ... | 7 | 4 | 4 | 3 | 2 | 5 | ... | 42 | 60 | 45 | 22 | 42 | 20 | Meningitis | 23 | 6 | 2 | 2 | ... | 2 | 1 | 3 | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | ... |
| Males | 1 | 2 | 4 | 1 | 3 | ... | 6 | 4 | ... | 2 | 2 | 3 | ... | 28 | 28 | 23 | 11 | 29 | 9 | " | 16 | 3 | 2 | 1 | ... | 2 | 1 | 1 | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... |
| Females | 1 | 3 | ... | 1 | 1 | ... | 1 | ... | 4 | 1 | ... | 2 | ... | 14 | 32 | 22 | 11 | 13 | 11 | " | 7 | 3 | ... | 1 | ... | ... | ... | 2 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |

* Congestion of lungs is included in disease of lungs for years prior to 1891. For explanation of irregularity in deaths from pneumonia and disease of lungs as compiled for the year 1890, see note at end of this table.

**Table 90.**—CONTINUED.—*Causes of death—Alphabetical list.*

| Sex. | Months, 1892. | | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages and periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total | ... | 1 | ... | ... | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... | 4 | 3 | 4 | 2 | ... | ... | Meningitis, Cerebral | 2 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | 3 | 1 | 3 | 2 | ... | ... | " " | 2 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | 2 | 1 | ... | ... | ... | " " | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 1 | 1 | 1 | 1 | ... | ... | 3 | ... | ... | ... | ... | ... | ... | 7 | 12 | 5 | 4 | 15 | 8 | Meningitis, Cerebro-spin. | 4 | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | 1 | 1 | 1 | ... | ... | 3 | ... | ... | ... | ... | ... | ... | 6 | 5 | 4 | 1 | 6 | 4 | " " | 3 | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 7 | 1 | 3 | 9 | 4 | " " | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 7 | 2 | 6 | 8 | 6 | 3 | 6 | 10 | 3 | 2 | 4 | 6 | ... | 63 | 84 | 74 | 62 | 63 | 77 | Meningitis, Spinal | 42 | 5 | 6 | 3 | 1 | ... | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 3 |
| Males | 2 | 1 | 3 | 3 | 5 | 1 | 3 | 3 | 3 | 1 | 4 | 3 | ... | 32 | 38 | 37 | 26 | 37 | 38 | " " | 24 | 1 | 3 | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | 1 |
| Females | 5 | 1 | 3 | 5 | 1 | 2 | 3 | 7 | ... | 1 | ... | 3 | ... | 31 | 46 | 37 | 36 | 26 | 39 | " " | 18 | 4 | 3 | 3 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| Total | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 2 | 4 | 4 | 4 | 7 | 4 | Meningitis, Tubercular | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 3 | 2 | 3 | 1 | " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 2 | 2 | 1 | 2 | 4 | 3 | " " | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | Milk, Diseased | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 5 | 1 | 2 | ... | 10 | 9 | ... | 6 | 7 | 3 | Mouth, Disease of | 10 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | 2 | ... | 5 | 3 | ... | 3 | 2 | 2 | " " " | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 3 | 1 | ... | ... | 5 | 6 | ... | 3 | 5 | 1 | " " " | 5 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | ... | 1 | ... | 1 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 4 | 7 | ... | 1 | 3 | 2 | Mumps | 2 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 3 | 6 | ... | ... | 3 | ... | " | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | ... | 2 | " | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | Muscles, Disease of | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Females | | | | | | | | | | | | | | | 1 | | | | | Navel, Inflammation of | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 1 | 5 | 1 | | | Navel, Hemorrhage of | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | | 1 | | | | " " " | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 1 | | | | | Navel, Rupture of | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 3 | 2 | | | | Nerves, Disease of | | | | | | | | | | | | | | | | | | |
| Females | | | 1 | | | | | | | | | | | 1 | | | | 2 | 3 | " " " | | | | | | | | | | | 1 | | | | | | | |
| Total | | | 2 | | 1 | 1 | | | 2 | | | 2 | | 8 | 10 | 7 | 16 | 14 | 12 | Neuralgia | 1 | | | | | 1 | | | | | 1 | | | 2 | 2 | | | 1 |
| Males | | | 1 | | 1 | | | | 1 | | | 1 | | 4 | 5 | 2 | 8 | 8 | 2 | " | | | | | | 1 | | | | | 1 | | | 1 | 1 | | | |
| emales | | | 1 | | | 1 | | | 1 | | | 1 | | 4 | 5 | 5 | 8 | 6 | 10 | " | 1 | | | | | | | | | | | | | 1 | 1 | | | 1 |
| ales | | | | | | | | | | 1 | | | | 1 | 1 | | 1 | | | Œsophagus, Stricture of | | | | | | | | | | | | | | 1 | | | | |
| smales | | | | | | | | | | | 1 | | | 1 | | | | | | " " " | | | | | | | | | | | | | | 1 | | | | |
| otal | 122 | 94 | 80 | 102 | 75 | 63 | 85 | 78 | 72 | 109 | 99 | 96 | 4 | 1079 | 1014 | 980 | 965 | 1174 | 917 | Old age | | | | | | | | | | | | 3 | 8 | 34 | 132 | 235 | 652 | 15 |
| Iales | 61 | 48 | 40 | 55 | 34 | 33 | 47 | 35 | 34 | 52 | 43 | 49 | 2 | 533 | 521 | 510 | 512 | 586 | 468 | " " | | | | | | | | | | | | 2 | 2 | 17 | 55 | 123 | 331 | 3 |
| Females | 61 | 46 | 40 | 47 | 41 | 30 | 38 | 43 | 38 | 57 | 56 | 47 | 2 | 546 | 493 | 470 | 453 | 588 | 449 | " " | | | | | | | | | | | | 1 | 6 | 17 | 77 | 112 | 321 | 12 |
| Males | | | | | | | | | | | | | | | | 1 | | 1 | 1 | Opium eating | | | | | | | | | | | | | | | | | | |
| Females | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 1 | | | 7 | 1 | | | | 1 | Ovaries, Disease of | | | | | | | 2 | 2 | 2 | | | 1 | | | | | | |
| Total | 50 | 35 | 41 | 52 | 39 | 36 | 42 | 46 | 48 | 51 | 38 | 63 | 1 | 542 | 564 | 558 | 533 | 552 | 450 | Paralysis | 11 | 2 | | 6 | 3 | 7 | 5 | 9 | 14 | 19 | 21 | 34 | 64 | 77 | 90 | 84 | 86 | 10 |
| Males | 32 | 15 | 18 | 35 | 21 | 23 | 26 | 25 | 28 | 26 | 22 | 35 | | 306 | 310 | 315 | 298 | 290 | 251 | " | 5 | 1 | | 2 | 3 | 4 | 2 | 5 | 5 | 10 | 12 | 24 | 29 | 48 | 51 | 51 | 47 | 7 |
| Females | 18 | 20 | 23 | 17 | 18 | 13 | 16 | 21 | 20 | 25 | 16 | 28 | 1 | 236 | 254 | 243 | 235 | 262 | 199 | " | 6 | 1 | | 4 | | 3 | 3 | 4 | 9 | 9 | 9 | 10 | 35 | 29 | 39 | 33 | 39 | 3 |
| Total | 2 | | | 1 | | 1 | 2 | | 1 | 5 | 1 | 2 | | 15 | 8 | | | | | Paralysis, Creeping | | | 1 | | | | 1 | | | 3 | | | 3 | 4 | | 2 | 1 | |
| Males | | | | | | | 1 | | 1 | 5 | | 1 | | 8 | 4 | | | | | " " | | | | | | | 1 | | | 2 | | | 1 | 2 | | 2 | | |
| Females | 2 | | | 1 | | 1 | 1 | | | | 1 | 1 | | 7 | 4 | | | | | " " | | | 1 | | | | | | | 1 | | | 2 | 2 | | | 1 | |
| Total | 1 | 1 | 3 | 1 | 1 | 1 | | | | | 1 | 1 | | 10 | 24 | | 9 | 1 | 15 | Paralysis, General | | | | | | | 1 | 3 | 1 | 1 | 1 | | 1 | 1 | | 1 | | |
| Males | 1 | 1 | 3 | | 1 | | | | | | | 1 | | 7 | 19 | | 5 | | 14 | " " | | | | | | | 1 | 2 | 1 | | 1 | | | 1 | | 1 | | |
| Females | | | | 1 | | 1 | | | | | 1 | | | 3 | 5 | | 4 | 1 | 1 | " " | | | | | | | | 1 | | 1 | | | 1 | | | | | |
| Males | | | | | | | | | | | | | | | 1 | | | | | Parotid gland, Abscess of | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | | | | | Pemphigus | | | | | | | | | | | | | | | | | | |

**Table 90.—CONTINUED.—*Causes of death—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total | 13 | 7 | 5 | 13 | 6 | 4 | 7 | 6 | 5 | 8 | 10 | 5 | .. | 89 | 116 | 98 | 50 | 46 | 35 | Peritonitis | 7 | 6 | 8 | 4 | 8 | 10 | 15 | 11 | 2 | 8 | 2 | 4 | 1 | 2 | .. | 1 | .. | .. |
| Males | 5 | 1 | 3 | 5 | 1 | 1 | 2 | 2 | 4 | 4 | 3 | 3 | .. | 34 | 41 | 50 | 20 | 21 | 13 | " | 5 | 4 | 3 | .. | 3 | 2 | 5 | 3 | .. | 3 | 1 | 2 | 1 | 1 | .. | 1 | .. | .. |
| Females | 8 | 6 | 2 | 8 | 5 | 3 | 5 | 4 | 1 | 4 | 7 | 2 | .. | 55 | 75 | 48 | 30 | 25 | 22 | " | 2 | 2 | 5 | 4 | 5 | 8 | 10 | 8 | 2 | 5 | 1 | 2 | .. | 1 | .. | .. | .. | .. |
| Males | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | Peritonitis, Tubercular | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Females | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | " " | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Females | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | Pharyngitis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Females | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | Phlebitis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Males | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 1 | .. | 1 | 1 | .. | Piles | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. |
| Females | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | " | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | 7 | 3 | 4 | 2 | 3 | 1 | .. | .. | 2 | 2 | 5 | 1 | .. | 30 | 22 | 27 | 25 | 46 | 25 | Pleurisy | 6 | .. | 1 | .. | 1 | 1 | 2 | 1 | 1 | 4 | .. | 2 | 3 | 2 | 2 | .. | 2 | 2 |
| Males | 5 | 1 | 2 | 1 | 3 | 1 | .. | .. | 1 | 2 | 1 | .. | .. | 17 | 10 | 14 | 12 | 23 | 16 | " | 5 | .. | .. | .. | 1 | .. | 1 | .. | .. | 1 | .. | 2 | 2 | 2 | .. | .. | 1 | 2 |
| Females | 2 | 2 | 2 | 1 | .. | .. | .. | .. | 1 | .. | 4 | 1 | .. | 13 | 12 | 13 | 13 | 23 | 9 | " | 1 | .. | 1 | .. | .. | 1 | 1 | 1 | 1 | 3 | .. | .. | 1 | .. | 2 | .. | 1 | .. |
| Total | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 3 | 2 | 4 | 9 | 10 | 2 | Pleuro-pneumonia | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. |
| Males | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | 1 | 5 | 1 | " " | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. |
| Females | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | 4 | 8 | 5 | 1 | " " | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. |
| Total | 272 | 163 | 119 | 129 | 89 | 63 | 58 | 39 | 49 | 67 | 87 | 109 | 2 | 1246 | 1185 | 852 | 1048 | 1190 | 884 | Pneumonia * | 430 | 33 | 18 | 47 | 38 | 41 | 44 | 32 | 30 | 47 | 48 | 67 | 77 | 88 | 73 | 59 | 62 | 12 |
| Males | 150 | 88 | 66 | 73 | 59 | 30 | 36 | 21 | 33 | 35 | 47 | 70 | 2 | 710 | 703 | 490 | 606 | 654 | 522 | " | 233 | 20 | 11 | 28 | 25 | 19 | 24 | 22 | 16 | 34 | 31 | 45 | 37 | 43 | 44 | 31 | 41 | 6 |
| Females | 122 | 74 | 53 | 56 | 30 | 33 | 22 | 18 | 16 | 32 | 40 | 39 | .. | 535 | 481 | 362 | 442 | 536 | 362 | " | 197 | 13 | 7 | 19 | 13 | 22 | 20 | 10 | 14 | 13 | 17 | 22 | 40 | 45 | 29 | 28 | 21 | 5 |
| Unknown | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | " | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Total | 10 | 3 | 2 | 3 | 2 | 3 | 1 | 4 | 1 | 4 | 3 | 6 | .. | 42 | 56 | 33 | 73 | 101 | 80 | Pneumonia, Typhoid | 1 | 2 | 4 | 5 | 3 | 7 | 1 | 1 | 2 | 3 | .. | 1 | 3 | 1 | 1 | 2 | 3 | 2 |
| Males | 1 | 2 | 1 | 2 | 1 | 2 | .. | 2 | 1 | 3 | 2 | 5 | .. | 22 | 26 | 18 | 49 | 59 | 54 | " " | 1 | 2 | 1 | 4 | 1 | 3 | 1 | .. | 1 | 1 | .. | .. | .. | 1 | 1 | 1 | 3 | 3 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Females | 9 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | | 1 | 1 | 1 | | 20 | 30 | 15 | 24 | 42 | 26 | " " | | | 3 | 1 | 2 | 4 | | 1 | 1 | 2 | | 1 | 3 | | | 1 | 1 | |
| Males | | | 1 | | 3 | | | 1 | | 1 | | | | 6 | | 1 | 1 | 1 | 1 | Prostate, Enlargment of | | | | | | | | | | | | | 1 | 2 | 1 | 1 | 1 | |
| Females | | | | | | | | | | | 1 | | | 1 | | | | | | Puberty | | | 1 | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | | | | | Pyelitis, Chronic | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | 1 | | 1 | 2 | | 1 | | 1 | Rachitis | 1 | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | | | 2 | 1 | | " | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 1 | | | | | Rectum, Disease of | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | | | | | " " | | | | | | | | | | | | | | | | | | |
| Total | 7 | 6 | 5 | 9 | 10 | 6 | 9 | 8 | 10 | 4 | 7 | 10 | | 91 | 95 | 91 | 92 | 85 | 84 | Rheumatism | 2 | 5 | 5 | 4 | 2 | 4 | 3 | 1 | 6 | 7 | 6 | 7 | 12 | 10 | 9 | 4 | 2 | 2 |
| Males | 2 | 3 | 3 | 6 | 7 | 2 | 3 | | 8 | 1 | 4 | 5 | | 44 | 56 | 63 | 61 | 53 | 56 | " | 1 | 2 | 2 | 1 | | 2 | 3 | 1 | 2 | 3 | 4 | 4 | 2 | 6 | 6 | 2 | 2 | 1 |
| Females | 5 | 3 | 2 | 3 | 3 | 4 | 6 | 8 | 2 | 3 | 3 | 5 | | 47 | 39 | 28 | 31 | 32 | 28 | " | 1 | 3 | 3 | 3 | 2 | 2 | | | 4 | 4 | 2 | 3 | 10 | 4 | 3 | 2 | | 1 |
| Total | 2 | 3 | 2 | 2 | 3 | | 1 | 1 | 2 | 3 | 1 | 2 | | 22 | 20 | 10 | 21 | 27 | 32 | Rheumatism, Inflam'at'y | 1 | | 4 | 3 | 1 | 2 | 2 | 1 | | 1 | | 1 | 1 | 3 | 1 | | 1 | |
| Males | | 3 | 2 | 1 | | | | 1 | 1 | | 1 | 1 | | 10 | 8 | 2 | 11 | 16 | 13 | " " | 1 | | 1 | 1 | | | 2 | | | | | 1 | 1 | 2 | 1 | | | |
| Females | 2 | | | 1 | 3 | | 1 | | 1 | 3 | | 1 | | 12 | 12 | 8 | 10 | 11 | 19 | " " | | | 3 | 2 | 1 | 2 | | 1 | | 1 | | | | 1 | | | 1 | |
| Total | 1 | 1 | | 1 | 1 | | | | | 2 | 1 | | | 7 | 3 | 3 | 3 | 3 | 4 | Rheumatism, Sciatic | | | | | | | | | | | 1 | | 3 | 1 | 1 | 1 | | |
| Males | | 1 | | 1 | 1 | | | | | | 1 | | | 4 | 2 | 2 | 2 | 2 | 2 | " " | | | | | | | | | | | 1 | | 1 | 1 | | 1 | | |
| Females | 1 | | | | | | | | | 2 | | | | 3 | 1 | 1 | 1 | 1 | 2 | " " | | | | | | | | | | | | | 2 | | 1 | | | |
| les | | | | | | | | | | | | | | | 1 | | | | | Ring-worm | | | | | | | | | | | | | | | | | | |
| Females | | 2 | | | | | | | 1 | | | 1 | | 4 | | | | | | Salpingitis | | | | | 1 | 1 | 1 | | 1 | | | | | | | | | |
| les | | | | | | | | | | | | | | | | | | | 1 | Scald-head | | | | | | | | | | | | | | | | | | |
| Total | | 3 | 1 | 1 | | | | 1 | 5 | 2 | 2 | 1 | | 16 | 16 | 33 | 25 | 21 | 25 | Scrofula | 9 | 1 | 1 | 1 | | | | | 1 | | 1 | | 1 | | | 1 | | |
| Males | | | | | | | | 1 | 3 | 2 | 1 | | | 7 | 7 | 19 | 13 | 14 | 15 | " | 3 | 1 | 1 | 1 | | | | | | | 1 | | | | | | | |
| Females | | 3 | 1 | 1 | | | | | 2 | | 1 | 1 | | 9 | 9 | 14 | 12 | 7 | 10 | " | 6 | | | | | | | | 1 | | | | 1 | | | 1 | | |
| Males | | | | | | | | | | | | | | | 1 | | | | | Scurvy | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | | | | | " | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | 1 | | | | | Seasickness | | | | | | | | | | | | | | | | | | |
| Females | | | | 1 | | | | | | | | 1 | | 2 | | | | | | " | 2 | | | | | | | | | | | | | | | | | |

* For explanation of irregularity in deaths from pneumonia and disease of lungs as compiled for the year 1890, see note at end of this table.

**Table 90.—CONTINUED.—*Causes of death—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Total | 15 | 18 | 18 | 18 | 15 | 7 | 11 | 15 | 9 | 16 | 7 | 18 | .. | 167 | 172 | 158 | 190 | 157 | 121 | Septicæmia | 19 | 4 | 3 | 7 | 14 | 20 | 17 | 11 | 8 | 11 | 9 | 7 | 3 | 11 | 9 | 10 | 2 | 3 |
| Males | 7 | 8 | 11 | 8 | 7 | 3 | 4 | 5 | 5 | 9 | 4 | 9 | .. | 80 | 88 | 83 | 108 | 77 | 53 | " | 11 | 2 | 2 | 1 | 4 | 5 | 7 | 1 | 3 | 4 | 5 | 6 | 2 | 8 | 6 | 9 | 2 | 2 |
| Females | 8 | 10 | 7 | 10 | 8 | 4 | 7 | 10 | 4 | 7 | 3 | 9 | .. | 87 | 84 | 70 | 82 | 80 | 68 | " | 8 | 2 | 1 | 6 | 10 | 15 | 10 | 10 | 5 | 7 | 4 | 1 | 1 | 3 | 3 | 1 | .. | .. |
| Males | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 10 | 3 | 7 | 1 | Skin, Disease of | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Females | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 6 | 2 | 3 | " " | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 6 | 2 | 3 | .. | Small-pox | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Males | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 5 | 2 | .. | .. | " | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Females | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 3 | .. | " | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Males | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | 1 | .. | Spina bifida | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Females | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 1 | " | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Males | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | .. | 1 | Spine, Abscess of | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Females | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | " " | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Males | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | Spine, Caries of | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Males | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .. | Spine, Congestion of | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | 4 | 4 | 7 | 7 | 13 | 11 | 4 | 4 | 15 | 9 | 8 | 8 | .. | 94 | 99 | 108 | 124 | 113 | 91 | Spine, Disease of | 46 | 10 | 5 | 6 | 3 | 3 | 3 | .. | 3 | 1 | 2 | 1 | 4 | 3 | 2 | 1 | 1 | .. |
| Males | 1 | 1 | 4 | 4 | 6 | 8 | 3 | 2 | 10 | 6 | 2 | 1 | .. | 48 | 51 | 63 | 53 | 59 | 51 | " " | 26 | 4 | 5 | 4 | .. | 1 | 2 | .. | 1 | .. | .. | .. | 2 | 1 | .. | 1 | 1 | .. |
| Females | 3 | 3 | 3 | 3 | 7 | 3 | 1 | 2 | 5 | 3 | 6 | 7 | .. | 46 | 48 | 45 | 71 | 54 | 40 | " " | 20 | 6 | .. | 2 | 3 | 2 | 1 | .. | 2 | 1 | 2 | 1 | 2 | 2 | 2 | .. | .. | .. |
| Males | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 1 | .. | .. | 2 | Spine, Paralysis of | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Females | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | 1 | 2 | " " | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | .. | .. | .. | .. | .. | 2 | .. | 1 | 1 | .. | .. | 1 | .. | 5 | 4 | 1 | 6 | 4 | 1 | Spleen, Disease of | .. | 1 | .. | .. | 2 | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. |
| Males | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | 2 | 2 | 1 | 3 | 3 | 1 | " " | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Females | | | | | | 1 | | 1 | | | | 1 | | 3 | 2 | | 3 | 1 | | " " | | | | | 1 | | 1 | | | | 1 | | | | | | |
| Total | 82 | 74 | 90 | 86 | 83 | 85 | 82 | 95 | 72 | 72 | 79 | 113 | 1 | 1014 | 1090 | 1397 | 1202 | 1358 | 897 | Still-born | 1014 | | | | | | | | | | | | | | | | |
| Males | 43 | 42 | 51 | 56 | 46 | 48 | 52 | 62 | 44 | 46 | 44 | 63 | | 597 | 583 | 757 | 692 | 809 | 503 | " | 597 | | | | | | | | | | | | | | | | |
| Females | 36 | 30 | 36 | 27 | 35 | 32 | 28 | 29 | 23 | 24 | 28 | 46 | | 374 | 434 | 587 | 483 | 534 | 359 | " | 374 | | | | | | | | | | | | | | | | |
| Unknown | 3 | 2 | 3 | 3 | 2 | 5 | 2 | 4 | 5 | 2 | 7 | 4 | 1 | 43 | 73 | 53 | 27 | 15 | 35 | " | 43 | | | | | | | | | | | | | | | | |
| -tal | | | | 1 | | | | 1 | | | | 2 | | 4 | 8 | 7 | 4 | 5 | 4 | Stomach, Abscess of | | | | | | | 1 | 1 | | 2 | | | | | | | |
| les | | | | 1 | | | | | | | | | | 1 | 5 | 4 | 4 | 3 | 2 | " " | | | | | | | | | | 1 | | | | | | | |
| nales | | | | | | | | 1 | | | | 2 | | 3 | 3 | 3 | | 2 | 2 | " " | | | | | | | 1 | 1 | | 1 | | | | | | | |
| les | | | | | | | | 1 | | | | | | 1 | 2 | | | | | Stomach, Congestion | | | | | | | | | | | | 1 | | | | | |
| nales | | | 1 | | | 1 | | | | 1 | | | | 3 | 2 | | | | | " " | 1 | | | | | | | | | 1 | | | | 1 | | | |
| ales | | | | | | 1 | | | | | 1 | | | 2 | 2 | | | | | Stomach, Consumption of | | | | | | | | | | | 1 | | | | | 1 | |
| Females | | | | | | | | | | | | | | | 2 | | | | | " " | | | | | | | | | | | | | | | | | |
| Total | 5 | 3 | 3 | 2 | 5 | 3 | 3 | 9 | 7 | 5 | 3 | 9 | | 57 | 47 | 60 | 38 | 44 | 32 | Stomach, Disease of | 9 | | | 2 | 3 | | 1 | 4 | 1 | 3 | 4 | 4 | 6 | 3 | 8 | 5 | 4 |
| Males | 3 | 3 | 2 | | 5 | | 3 | 4 | 3 | 3 | 2 | 4 | | 32 | 32 | 32 | 26 | 27 | 16 | " " | 5 | | | 2 | 2 | | 1 | 2 | | 1 | 3 | 3 | 3 | 1 | 5 | 2 | 2 |
| Females | 2 | | 1 | 2 | | 3 | | 5 | 4 | 2 | 1 | 5 | | 25 | 15 | 28 | 12 | 17 | 16 | " " | 4 | | | | 1 | | | 2 | 1 | 2 | 1 | 1 | 3 | 2 | 3 | 3 | 2 |
| Males | | | | | | | | | | | | | | | 1 | | | | | Stomach, Enlargement of | | | | | | | | | | | | | | | | | |
| Total | | | 1 | 1 | | | | | | | | 1 | | 3 | 3 | 3 | 10 | 4 | 5 | Stomach, Hemorrhage of | | | | | | | | | 1 | | | | 1 | 1 | | | |
| Males | | | | 1 | | | | | | | | 1 | | 2 | 2 | 3 | 3 | 3 | 3 | " " | | | | | | | | | 1 | | | | | 1 | | | |
| Females | | | 1 | | | | | | | | | | | 1 | 1 | | 7 | 1 | 2 | " " | | | | | | | | | | | | | 1 | | | | |
| Total | 6 | 5 | 5 | 8 | 4 | | 5 | 8 | 5 | 1 | 1 | 5 | | 53 | 49 | 27 | 39 | 43 | 35 | Stomach, Inflammation of | 9 | | 3 | | 2 | 1 | 3 | 2 | 2 | 4 | 4 | 2 | 6 | 5 | 5 | 4 | 1 |
| Males | 4 | 2 | 4 | 4 | 2 | | 3 | 2 | 3 | | 1 | 2 | | 27 | 27 | 15 | 15 | 25 | 14 | " " | 3 | | 1 | | 1 | | 1 | 2 | 1 | 3 | | 1 | 3 | 4 | 5 | 1 | 1 |
| Females | 2 | 3 | 1 | 4 | 2 | | 2 | 6 | 2 | 1 | | 3 | | 26 | 22 | 12 | 24 | 18 | 21 | " " | 6 | | 2 | | 1 | 1 | 2 | | 1 | 1 | 4 | 1 | 3 | 1 | | 3 | |
| -otal | | | 1 | | | | | | | | | | | 1 | 11 | 3 | 5 | 11 | 7 | Stomach, Neuralgia of | | | | | | | 1 | | | | | | | | | | |
| les | | | 1 | | | | | | | | | | | 1 | 6 | 1 | 4 | 3 | 5 | " " | | | | | | | 1 | | | | | | | | | | |
| males | | | | | | | | | | | | | | | 5 | 2 | 1 | 8 | 2 | " " | | | | | | | | | | | | | | | | | |
| les | | | | | | | | | | | | | | | 1 | | 1 | 3 | 1 | Stomach, Paralysis of | | | | | | | | | | | | | | | | | |
| males | | | | | | | | | | | | | | | | | 1 | 1 | 3 | " " | | | | | | | | | | | | | | | | | |

**Table 90.—CONTINUED.—*Causes of death—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Males | | | | | | | | | | | | | | | 2 | | 1 | | 2 | Stomach, Rupture of | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | | | | 1 | " " | | | | | | | | | | | | | | | | | | |
| Total | 2 | 1 | 2 | 4 | | | | 1 | 2 | 3 | 3 | 1 | | 19 | 17 | 26 | 17 | 21 | 18 | Stomach, Ulceration of | | | | | | 1 | 2 | 2 | 4 | 2 | 2 | 2 | 4 | | | | |
| Males | 1 | 1 | 1 | 1 | | | | 1 | | 1 | 1 | 1 | | 8 | 8 | 19 | 9 | 14 | 11 | " " | | | | | | 1 | 1 | | | 1 | 1 | | 4 | | | | |
| Females | 1 | | 1 | 3 | | | | | 2 | 2 | 2 | | | 11 | 9 | 7 | 8 | 7 | 7 | " " | | | | | | | 1 | 2 | 4 | 1 | 1 | 2 | | | | | |
| Males | | | | 1 | | | | | 1 | | 1 | | | 3 | 1 | 4 | | | | Stricture | | | | | | | | | 1 | 1 | | | 1 | | | | |
| Females | | 1 | | | | 1 | | | 1 | | | | | 3 | | 2 | | | | " | 1 | 1 | | | | | 1 | | | | | | | | | | | |
| Total | 3 | 5 | 8 | 15 | 9 | 9 | 17 | 6 | 8 | 6 | 9 | 12 | | 107 | 79 | 108 | 94 | 101 | 105 | Suicide | | | 1 | 6 | 11 | 16 | 5 | 7 | 7 | 9 | 10 | 9 | 6 | 7 | 8 | 3 | 2 |
| Males | 3 | 5 | 6 | 14 | 7 | 5 | 12 | 4 | 6 | 3 | 8 | 9 | | 82 | 49 | 90 | 78 | 82 | 75 | " | | | | 2 | 8 | 11 | 3 | 6 | 6 | 9 | 8 | 7 | 5 | 6 | 8 | 3 | |
| Females | | | 2 | 1 | 2 | 4 | 5 | 2 | 2 | 3 | 1 | 3 | | 25 | 30 | 18 | 16 | 19 | 30 | " | | | 1 | 4 | 3 | 5 | 2 | 1 | 1 | | 2 | 2 | 1 | 1 | | | | 3 |
| Males | | | | 1 | | | | | | | | | | 1 | | 1 | | 1 | | Suprarenal capsule, Dis. of | | | | | | 1 | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | | 1 | | | | " " " | | | | | | | | | | | | | | | | | | |
| Males | | | | | | | | | | | | | | | | | | | 1 | Syncope | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 1 | 1 | | 2 | | " | | | | | | | | | | | | | | | | | | |
| Total | 1 | 1 | | 3 | | 1 | 1 | | 1 | | 2 | 1 | | 11 | 6 | 7 | 5 | 14 | 4 | Syphilis | 4 | | | | 1 | 2 | | | | | 1 | 1 | 2 | | | | |
| Males | 1 | | | 3 | | 1 | | | 1 | | | 1 | | 7 | 3 | 5 | 3 | 8 | 1 | " | 3 | | | | 1 | 1 | | | | | 1 | | 1 | | | | | |
| Females | | 1 | | | | | 1 | | | | 2 | | | 4 | 3 | 2 | 2 | 6 | 3 | " | 1 | | | | | 1 | | | | | | 1 | 1 | | | | | |
| Males | | | | | | | | | | | | | | | | | 2 | | 1 | Tape worm | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | | | 1 | | 1 | " " | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | 3 | 2 | 5 | 5 | 3 | 2 | 13 | 10 | 9 | 4 | 8 | 5 | | 69 | 55 | 67 | 82 | 89 | 81 | Teething | 69 | | | | | | | | | | | | | | | | | |
| Males | 3 | | 3 | 3 | 1 | 1 | 10 | 5 | 4 | 2 | 5 | 3 | | 40 | 24 | 28 | 38 | 41 | 36 | " | 40 | | | | | | | | | | | | | | | | | |
| Females | | 2 | 2 | 2 | 2 | 1 | 3 | 5 | 5 | 2 | 3 | 2 | | 29 | 31 | 39 | 44 | 48 | 45 | " | 29 | | | | | | | | | | | | | | | | | |
| Total | 1 | | | 2 | | | | | | 2 | | 2 | | 7 | 12 | 10 | 8 | 7 | 7 | Tetanus | 2 | | | 1 | 1 | 2 | | | | | | 1 | | | | | | |
| Males | 1 | | | 2 | | | | | | 2 | | 2 | | 7 | 7 | 9 | 5 | 6 | 5 | " | 2 | | | 1 | 1 | 2 | | | | | | 1 | | | | | | |
| Females | | | | | | | | | | | | | | | 5 | 1 | 3 | 1 | 2 | " | | | | | | | | | | | | | | | | | | |
| Total | 5 | 3 | 3 | | | | 2 | | | | 2 | 1 | | 16 | 8 | 26 | 9 | 23 | 25 | Throat, Disease of | 7 | | | 1 | | | | 2 | | | 1 | | 1 | 1 | 2 | | 1 | |
| Males | 4 | 1 | 2 | | | | | | | | 2 | 1 | | 10 | 6 | 12 | 6 | 14 | 16 | " " | 7 | | | | | | | 1 | | | | | | 1 | | | 1 | |
| Females | 1 | 2 | 1 | | | | 2 | | | | | | | 6 | 2 | 14 | 3 | 9 | 9 | " " | | | | 1 | | | | 1 | | | 1 | | 1 | | 2 | | | |
| Males | 1 | | | | | | | | | 1 | | | | 2 | 6 | | 1 | 1 | 3 | Throat, Inflammation of | 2 | | | | | | | | | | | | | | | | | |
| Females | | | | | | | 1 | | | 1 | | | | 2 | 4 | | 1 | 1 | 1 | " " | | 1 | 1 | | | | | | | | | | | | | | | |
| Males | | | | | | | | 1 | | | | | | 1 | 1 | | | | 1 | Throat, Paralysis of | | | | | | | | 1 | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | 2 | 2 | | | | " " | | | | | | | | | | | | | | | | | | |
| Total | 1 | | | | 3 | | 1 | 1 | | 2 | | 1 | | 9 | 8 | 5 | 5 | 3 | 3 | Thrush | 8 | | | | | 1 | | | | | | | | | | | | |
| Males | | | | | 1 | | 1 | 1 | | 1 | | | | 4 | 4 | 2 | 1 | 2 | 1 | " | 4 | | | | | | | | | | | | | | | | | |
| Females | 1 | | | | 2 | | | | | 1 | | 1 | | 5 | 3 | 3 | 4 | 1 | 2 | " | 4 | | | | | 1 | | | | | | | | | | | | |
| Unknown | | | | | | | | | | | | | | | 1 | | | | | " | | | | | | | | | | | | | | | | | | |
| Females | | | | | | | | | | | | | | | | 1 | 1 | | | Trichiniasis | | | | | | | | | | | | | | | | | | |
| Males | | | | 1 | | | | | | | | | | 1 | | | | | | Trismus neonatorum | 1 | | | | | | | | | | | | | | | | | |
| Females | | | 1 | | | | | | | | | | | 1 | | | | | | " " | 1 | | | | | | | | | | | | | | | | | |
| Total | 1 | 1 | 4 | 3 | | | 1 | | 1 | 2 | 1 | 5 | 1 | 20 | 18 | 7 | 12 | 15 | 9 | Tonsilitis | 4 | 3 | 3 | 2 | 4 | 1 | | 1 | 1 | | | | 1 | | | | | |
| Males | | 1 | | 2 | | | 1 | | 1 | 2 | 1 | 2 | | 10 | 9 | 4 | 8 | 6 | 6 | " | 1 | 1 | 2 | 1 | 1 | 1 | | 1 | 1 | | | | 1 | | | | | |
| Females | 1 | | 4 | 1 | | | | | | | | 3 | 1 | 10 | 9 | 3 | 4 | 9 | 3 | " | 3 | 2 | 1 | 1 | 3 | | | | | | | | | | | | | |
| Total | 12 | 15 | 13 | 9 | 10 | 13 | 6 | 7 | 11 | 14 | 12 | 17 | | 139 | 157 | 123 | 102 | 108 | 93 | Tumor* | 7 | 4 | 2 | 1 | 6 | 11 | 13 | 12 | 14 | 12 | 6 | 12 | 13 | 6 | 7 | 6 | 4 | 3 |
| Males | 3 | 2 | 5 | 3 | 1 | 5 | 1 | | 1 | 4 | 4 | 7 | | 36 | 38 | 33 | 28 | 35 | 21 | " | 2 | 2 | | | 2 | 4 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 2 | 2 | 2 | | |
| Females | 9 | 13 | 8 | 6 | 9 | 8 | 5 | 7 | 10 | 10 | 8 | 10 | | 103 | 119 | 90 | 74 | 73 | 72 | " | 5 | 2 | 2 | 1 | 4 | 7 | 11 | 9 | 10 | 7 | 5 | 10 | 10 | 4 | 5 | 4 | 4 | 3 |

* See note to Table 75, p. 201, for organs affected.

**Table 90.—Concluded.—*Causes of death—Alphabetical list.***

| Sex. | Months, 1892. | | | | | | | | | | | | | Years, 1887-92. | | | | | | Causes of death. | Ages in periods of years, 1892. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Unknown. | 1892. | 1891. | 1890. | 1889. | 1888. | 1887. | | Under 5. | 5 to 10. | 10 to 15. | 15 to 20. | 20 to 25. | 25 to 30. | 30 to 35. | 35 to 40. | 40 to 45. | 45 to 50. | 50 to 55. | 55 to 60. | 60 to 65. | 65 to 70. | 70 to 75. | 75 to 80. | 80 and over. | Unknown. |
| Females | ... | 1 | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | ... | ... | 4 | 6 | 2 | 8 | 7 | 8 | Turn of life | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | 1 | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 2 | 8 | 6 | 8 | Ulcer | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 3 | 2 | 6 | " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Total | 160 | 140 | 168 | 146 | 147 | 137 | 138 | 194 | 180 | 158 | 161 | 170 | 16 | 1915 | 1768 | 1510 | 1234 | 1224 | 1249 | Unknown * | 1202 | 40 | 12 | 24 | 39 | 31 | 36 | 25 | 29 | 30 | 35 | 32 | 38 | 56 | 39 | 27 | 33 | 187 |
| Males | 88 | 85 | 92 | 69 | 82 | 77 | 86 | 118 | 103 | 87 | 84 | 93 | 9 | 1073 | 908 | 794 | 630 | 647 | 628 | " | 695 | 22 | 7 | 13 | 12 | 6 | 14 | 10 | 13 | 16 | 21 | 20 | 18 | 34 | 26 | 19 | 18 | 109 |
| Females | 62 | 55 | 76 | 72 | 65 | 58 | 50 | 76 | 76 | 71 | 71 | 74 | 7 | 813 | 774 | 704 | 604 | 577 | 616 | " | 503 | 18 | 5 | 11 | 27 | 25 | 22 | 15 | 16 | 14 | 14 | 12 | 20 | 22 | 13 | 8 | 15 | 53 |
| Unknown | 10 | ... | ... | 5 | ... | 2 | 2 | ... | 1 | ... | 6 | 3 | ... | 29 | 86 | 9 | ... | ... | 5 | " | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 25 |
| Total | ... | 1 | 1 | 1 | 2 | ... | 1 | 3 | ... | 1 | 1 | ... | ... | 11 | 12 | 5 | 4 | 4 | 3 | Uræmia | ... | ... | ... | ... | 2 | 2 | ... | ... | ... | 1 | ... | 1 | ... | 1 | 2 | ... | 1 | 1 |
| Males | ... | 1 | ... | 1 | 2 | ... | ... | 2 | ... | 1 | 1 | ... | ... | 8 | 6 | 2 | 1 | 3 | 2 | " | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... | 1 | 2 | ... | 1 | 1 |
| Females | ... | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 3 | 6 | 3 | 3 | 1 | 1 | " | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | Urethra, Stricture of | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 3 | 1 | Urinary organs, Dis. of | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | " " " " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | Uterus, Abscess of | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | 1 | 1 | ... | 1 | ... | ... | 2 | 1 | ... | ... | ... | 1 | ... | 7 | 12 | 1 | 8 | 8 | 13 | Uterus, Disease of | ... | ... | ... | 2 | ... | 2 | 1 | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | 1 | Uterus, Hemorrhage of | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 3 | 5 | ... | 2 | 8 | 7 | Uterus, Inflammation of | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | Vaccination | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | Venereal Disease | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | Vomiting | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total ...... | 8 | 11 | 9 | 13 | 11 | 13 | 24 | 16 | 17 | 7 | 8 | 10 | ... | 147 | 158 | 75 | 140 | 174 | 110 | Whooping-cough ........ | 143 | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males ...... | 1 | 5 | 2 | 8 | 5 | 8 | 14 | 6 | 12 | 5 | 4 | 4 | ... | 74 | 74 | 38 | 65 | 69 | 51 | " ........ | 71 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females ... | 7 | 6 | 7 | 5 | 6 | 5 | 10 | 10 | 5 | 2 | 4 | 6 | ... | 73 | 84 | 37 | 75 | 105 | 59 | " ........ | 72 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Males ...... | ... | ... | ... | ... | | ... | ... | ... | ... | 1 | 1 | 1 | ... | 3 | 3 | 2 | 1 | 4 | ... | Worms ........ | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Females ... | 1 | 1 | ... | | | 1 | ... | ... | ... | 1 | 1 | ... | ... | 5 | 2 | ... | 3 | 1 | 4 | " ........ | 3 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

* For explanation of increase in number of deaths compiled from "unknown" cause for the years 1890-92, see p. 206.

NOTE ON PNEUMONIA, BRAIN DISEASES, ETC., IN 1890.—The Registration Report for 1890 stated that 852 deaths were caused by pneumonia and 555 by lung disease. The discrepancy between these figures and those given for the years immediately preceding suggested that some difference in methods of compilation might be responsible instead of there being an actual difference in the prevalence of the diseases or rather in the groups of causes classed under these titles. Pneumonia should include all deaths returned from "inflammation of the lungs" and from "lung fever" as well as those returned directly as such. A re-examination of the returns for the year 1890, making the grouping indicated above in order to make the results comparable with previous years, gave a total of 1,182 deaths from pneumonia and left a remainder of 225 deaths to be ascribed to the "lung disease" of the classification. In a similar manner it was found that the number of deaths from inflammation of the brain, "cephalitis" of Table 89, should be 318 for the year 1890 instead of 57; "brain disease" was 196 instead of 457. It should be noted that "congestion of the brain" is separately stated for the years 1891 and 1892. It should be added to the number given for "brain disease" in making comparisons with previous years. The same is true of "congestion of the lungs" which is included in "lung disease" in all previous years, but which is probably equivalent to pneumonia in most cases when returned as a cause of death.

## CLIMATIC CONDITIONS AFFECTING CAUSES OF DEATH.

It is impossible to give a satisfactory account of this subject at the present time as certain very important data, namely, the absolute numbers of deaths that occurred in each month of the registration year from each cause, are not known. The numbers given in Table 69 are known to be deficient, and to be more deficient for the early months of the year than for the latter months. While, theoretically, a correction might be applied to individual causes of death as returned by months in order to bring them more nearly in accord with the probable numbers of deaths that actually occurred, in practice it is not easy to ascertain the exact amount of correction, nor to satisfactorily distribute it among the months. Adulterated statistics do not pass current in the statistical world. When a grave deficiency exists, as in Michigan, at the foundation of our registration methods, it is better to exert every effort to remove the defect and to establish a satisfactory system of collection of data, rather than to waste time in basing deductions upon figures known to be in great measure incorrect.

For this reason the comparisons made in previous registration reports of the deaths returned by months from certain causes with meteorological data for the same months are not given. In their stead a somewhat fuller series of tables of meteorological data than usual is taken from the last report of the Secretary of the State Board of Health (for 1891), to which, by the kindness of Dr. Baker, the corresponding data for 1892 (not yet printed) have been added. These reports have long been indebted for excellent meteorological data to the systematized collections of the State Board of Health observers, and it is hoped that the time may soon come, with the passage of a satisfactory registration law, when mortality and meteorological conditions may be directly compared without risk of the serious errors to which such comparison is now liable.

**Table 91.**—*Average* **temperature** *by year and months in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877-90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Average temperature, degrees Fahrenheit. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877-90... | 46.09 | 21.17 | 23.43 | 29.48 | 44.25 | 56.00 | 65.61 | 70.81 | 67.84 | 60.88 | 49.45 | 36.49 | 27.69 |
| 1890 (12 stations)..... | 46.99 | 30.06 | 30.07 | 27.47 | 45.23 | 52.41 | 69.93 | 71.29 | 65.28 | 58.06 | 48.88 | 38.60 | 26.65 |
| 1891 (11 stations)..... | 47.61 | 26.90 | 27.33 | 28.93 | 47.11 | 55.40 | 67.92 | 66.67 | 68.16 | 65.50 | 49.01 | 34.57 | 34.11 |
| 1892 (12 stations)..... | 45.33 | 18.72 | 26.26 | 28.44 | 42.50 | 53.73 | 66.79 | 70.87 | 68.91 | 61.08 | 48.87 | 33.61 | 24.16 |

**Table 92.**—*Average* **daily range of temperature** *by year and months in 1892, compared with annual and monthly averages for 1891, 1890, and for the 12 years, 1879–90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Average daily range of temperature, degrees Fahrenheit. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| **Av. 12 years, 1879-90** | 18.09 | 16.09 | 17.66 | 17.71 | 19.41 | 20.38 | 20.39 | 20.76 | 20.11 | 19.86 | 17.02 | 14.36 | 13.28 |
| **1890 (19 stations)** | 17.38 | 15.22 | 13.99 | 15.92 | 20.68 | 18.00 | 19.96 | 21.37 | 20.06 | 19.67 | 14.67 | 14.72 | 14.33 |
| **1891 (16 stations)** | 18.01 | 12.90 | 15.76 | 14.90 | 19.57 | 23.16 | 21.02 | 21.33 | 19.93 | 21.70 | 18.18 | 13.65 | 14.04 |
| **1892 (19 stations)** | 17.15 | 16.62 | 14.06 | 17.16 | 19.12 | 17.22 | 18.52 | 22.02 | 19.93 | 20.14 | 18.14 | 11.60 | 11.27 |

**Table 93.**—*Comparisons of the* **extremes and the range of temperature** *during the year, and during each month of the year 1892, with the average of the extremes, and of the range, for the fourteen years, 1877–90; also, statement of the extremes and of the range for each of the seven years, 1885–91. Observations made with registering thermometers by observers for the State Board of Health and for the U. S. Signal Service. These comparisons, etc., are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Year and months. | Extremes and range of temperature,—degrees Fahrenheit. | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1885. | | | 1886. | | | 1887. | | | 1888. | | | 1889. | | | 1890. | | | Av. for 14 years, 1877-90. | | | 1891. | | | 1892.* | | |
| | Highest. | Lowest. | Range. | Highest. | Lowest. | Range. | Highest. | Lowest. | Range. | Highest. | Lowest. | Range. | Highest. | Lowest. | Range. | Highest. | Lowest. | Range. | Highest. | Lowest. | Range. | Highest. | Lowest. | Range. | Highest. | Lowest. | Range. |
| Year | 96 | -36 | 132 | 101 | -30 | 131 | 104 | -28 | 132 | 99 | -33 | 132 | 97 | -23 | 120 | 100 | -26 | 126 | 99 | -27 | 126 | 100 | -14 | 114 | 102 | -24 | 126 |
| January | 53 | -36 | 89 | 55 | -22 | 77 | 54 | -28 | 82 | 45 | -23 | 68 | 53 | -7 | 60 | 66 | -14 | 80 | 54 | -21 | 75 | 52 | -10 | 62 | 57 | -22 | 79 |
| February | 50 | -33 | 83 | 54 | -30 | 84 | 55 | -21 | 76 | 49 | -33 | 82 | 49 | -23 | 72 | 63 | -8 | 71 | 57 | -20 | 77 | 55 | -14 | 69 | 52 | -24 | 76 |
| March | 55 | -29 | 84 | 73 | -25 | 98 | 60 | -14 | 74 | 69 | -20 | 89 | 65 | 5 | 60 | 59 | -26 | 85 | 65 | -15 | 80 | 58 | -8 | 66 | 64 | -13 | 77 |
| April | 84 | 6 | 78 | 84 | 0 | 84 | 82 | 8 | 74 | 88 | 6 | 82 | 80 | 14 | 66 | 80 | 1 | 79 | 83 | 8 | 75 | 87 | 10 | 77 | 79 | 13 | 66 |
| May | 87 | 18 | 69 | 88 | 22 | 66 | 97 | 28 | 69 | 84 | 21 | 63 | 95 | 23 | 72 | 91 | 21 | 70 | 89 | 22 | 67 | 85 | 25 | 60 | 85 | 27 | 58 |
| June | 93 | 32 | 61 | 95 | 27 | 68 | 98 | 40 | 58 | 99 | 29 | 70 | 93 | 36 | 57 | 98 | 32 | 66 | 95 | 32 | 63 | 97 | 31 | 66 | 102 | 34 | 68 |
| July | 96 | 39 | 57 | 101 | 33 | 68 | 104 | 39 | 65 | 97 | 40 | 57 | 97 | 36 | 61 | 98 | 39 | 59 | 98 | 40 | 58 | 95 | 37 | 58 | 97 | 41 | 56 |
| August | 90 | 35 | 55 | 98 | 32 | 66 | 98 | 37 | 61 | 94 | 33 | 61 | 94 | 37 | 57 | 100 | 34 | 66 | 96 | 37 | 59 | 100 | 37 | 63 | 95 | 37 | 58 |
| September | 88 | 25 | 63 | 91 | 27 | 64 | 91 | 26 | 65 | 90 | 28 | 62 | 93 | 25 | 68 | 90 | 27 | 63 | 94 | 28 | 66 | 93 | 35 | 58 | 92 | 30 | 62 |
| October | 81 | 13 | 68 | 83 | 16 | 67 | 80 | 11 | 69 | 73 | 23 | 50 | 76 | 14 | 62 | 80 | 24 | 56 | 84 | 19 | 65 | 87 | 21 | 66 | 82 | 23 | 59 |
| November | 68 | 19 | 49 | 72 | -15 | 87 | 70 | -6 | 76 | 72 | 8 | 64 | 66 | 11 | 55 | 68 | 0 | 68 | 70 | 1 | 69 | 65 | -3 | 68 | 64 | 5 | 59 |
| December | 55 | -11 | 66 | 53 | -22 | 75 | 56 | -6 | 62 | 55 | 1 | 54 | 65 | 2 | 63 | 50 | -6 | 56 | 57 | -9 | 66 | 60 | 8 | 52 | 58 | -11 | 69 |
| Av. month | 75 | 7 | 69 | 79 | 4 | 75 | 79 | 10 | 69 | 76 | 9 | 67 | 77 | 14 | 63 | 79 | 10 | 68 | 79 | 10 | 69 | 78 | 14 | 64 | 77 | 12 | 66 |

* **For the 16 years, 1877-92, the highest temperature was 105°, at Battle Creek, September 9, 1884; the lowest was -36°, at Manistique, January 27, 1885.**

**Table 94.**—*Average* **absolute humidity,** *by year and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877-90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Absolute humidity,—grains of vapor in a cubic foot of air. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877-90.. | 3.42 | 1.43 | 1.53 | 1.79 | 2.75 | 3.92 | 5.39 | 6.08 | 5.73 | 4.55 | 3.54 | 2.33 | 1.79 |
| 1890 (10 stations) ..... | 3.52 | 2.02 | 1.95 | 1.73 | 2.93 | 3.72 | 6.23 | 5.95 | 5.46 | 4.59 | 3.66 | 2.46 | 1.60 |
| 1891 (8 stations) ..... | 3.54 | 1.77 | 1.84 | 1.79 | 3.19 | 3.67 | 5.86 | 5.30 | 5.88 | 5.42 | 3.37 | 2.32 | 2.14 |
| 1892 (10 stations) ..... | 3.49 | 1.35 | 1.80 | 1.79 | 2.61 | 3.97 | 6.08 | 6.23 | 5.92 | 4.88 | 3.34 | 2.23 | 1.64 |

**Table 95.**—*Average* **relative humidity,** *by years and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 13 years, 1878-90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Per cent of saturation.—relative humidity. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 13 years, 1878-90... | 76 | 82 | 82 | 78 | 70 | 69 | 73 | 72 | 73 | 75 | 76 | 79 | 83 |
| 1890 (10 stations) ..... | 79 | 87 | 86 | 82 | 73 | 74 | 74 | 69 | 76 | 80 | 83 | 80 | 88 |
| 1891 (8 stations) ..... | 77 | 87 | 84 | 83 | 74 | 66 | 73 | 70 | 73 | 75 | 75 | 84 | 80 |
| 1892 (10 stations) ..... | 80 | 88 | 90 | 83 | 71 | 77 | 80 | 72 | 74 | 77 | 75 | 88 | 89 |

**Table 96.**—*Average per cent of* **cloudiness,** *by year and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877-90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Per cent of cloudiness. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877-90... | 56 | 70 | 64 | 58 | 51 | 50 | 48 | 41 | 43 | 46 | 59 | 68 | 75 |
| 1890 (12 stations) ..... | 56 | 72 | 69 | 56 | 44 | 60 | 48 | 35 | 43 | 48 | 71 | 61 | 66 |
| 1891 (11 stations) ..... | 55 | 79 | 70 | 67 | 50 | 40 | 48 | 38 | 47 | 33 | 52 | 80 | 57 |
| 1892 (11 stations) ..... | 57 | 61 | 77 | 48 | 48 | 68 | 60 | 33 | 38 | 38 | 48 | 85 | 89 |

**Table 97.**—*Inches of* **rain and melted snow,** *by year and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877-90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Inches of rain and melted snow. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877-90... | 34.97 | 2.27 | 2.57 | 2.28 | 2.52 | 3.51 | 3.94 | 3.23 | 3.19 | 3.24 | 3.40 | 3.05 | 2.65 |
| 1890 (20 stations) ..... | 30.20 | 3.53 | 2.40 | 2.12 | 3.37 | 4.80 | 3.74 | 1.47 | 3.63 | 2.09 | 4.97 | 2.43 | 1.70 |
| 1891 (17 stations) ..... | 31.66 | 1.91 | 3.13 | 2.74 | 2.03 | 1.33 | 2.53 | 2.55 | 4.41 | 1.92 | 1.71 | 4.86 | 2.54 |
| 1892 (18 stations) ..... | 33.08 | 1.95 | 2.16 | 1.39 | 2.16 | 5.45 | 5.17 | 2.39 | 2.92 | 3.01 | 1.40 | 3.14 | 1.95 |

**Table 98.**—*Average amount of atmospheric* **ozone (day),** *by year and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877-90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Ozone by day,—degree of coloration of test-paper.* | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual Av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877-90... | 3.29 | 3.47 | 3.57 | 3.61 | 3.47 | 3.49 | 3.29 | 2.88 | 3.10 | 3.05 | 3.04 | 3.10 | 3.39 |
| 1890 (8 stations)..... | 3.69 | 3.99 | 3.97 | 4.19 | 4.08 | 4.65 | 4.13 | 3.23 | 3.49 | 3.44 | 3.09 | 2.53 | 3.49 |
| 1891 (8 stations)..... | 3.99 | 4.20 | 4.18 | 4.46 | 4.02 | 4.40 | 4.10 | 3.94 | 3.92 | 3.82 | 3.85 | 3.45 | 3.59 |
| 1892 (7 stations)..... | 3.95 | 4.29 | 4.32 | 4.18 | 3.58 | 4.24 | 4.39 | 3.60 | 4.52 | 3.56 | 3.69 | 3.23 | 3.83 |

* Scale of 10 degrees.

**Table 99.**—*Average amount of atmospheric* **ozone (night),** *by year and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877-90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Ozone by night,—degree of coloration of test-paper.* | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual Av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877-90... | 3.42 | 3.89 | 4.10 | 4.08 | 3.77 | 3.66 | 3.37 | 2.77 | 2.79 | 2.81 | 3.13 | 3.31 | 3.70 |
| 1890 (8 stations)..... | 3.83 | 3.91 | 4.57 | 4.49 | 4.47 | 4.83 | 4.19 | 3.39 | 3.51 | 3.14 | 3.09 | 2.63 | 3.71 |
| 1891 (8 stations)..... | 4.22 | 4.03 | 4.86 | 4.91 | 4.83 | 4.41 | 4.37 | 4.15 | 3.92 | 3.61 | 3.92 | 3.51 | 4.19 |
| 1892 (7 stations)..... | 4.18 | 4.37 | 5.05 | 4.48 | 4.33 | 4.58 | 4.62 | 3.44 | 4.56 | 3.26 | 3.73 | 3.49 | 4.20 |

* Scale of 10 degrees.

**Table 94.**—*Average* **absolute humidity,** *by year and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877–90. These averages are for groups of several stations in Michigan.* (*Data supplied by State Board of Health.*)

| Years, etc. | Absolute humidity,—grains of vapor in a cubic foot of air. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877–90... | 3.42 | 1.43 | 1.53 | 1.79 | 2.75 | 3.92 | 5.39 | 6.08 | 5.73 | 4.85 | 3.54 | 2.33 | 1.79 |
| 1890 (10 stations) ..... | 3.52 | 2.02 | 1.95 | 1.73 | 2.93 | 3.72 | 6.23 | 5.95 | 5.46 | 4.59 | 3.66 | 2.46 | 1.60 |
| 1891 (8 stations) ..... | 3.54 | 1.77 | 1.84 | 1.79 | 3.19 | 3.67 | 5.86 | 5.30 | 5.83 | 5.42 | 3.37 | 2.32 | 2.14 |
| 1892 (10 stations) ..... | 3.49 | 1.35 | 1.80 | 1.79 | 2.61 | 3.97 | 6.08 | 6.23 | 5.92 | 4.88 | 3.34 | 2.23 | 1.64 |

**Table 95.**—*Average* **relative humidity,** *by years and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 13 years, 1878–90. These averages are for groups of several stations in Michigan.* (*Data supplied by State Board of Health.*)

| Years, etc. | Per cent of saturation,—relative humidity. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 13 years, 1878–90... | 76 | 82 | 82 | 78 | 70 | 69 | 73 | 72 | 73 | 75 | 76 | 79 | 83 |
| 1890 (10 stations) ..... | 79 | 87 | 86 | 82 | 73 | 74 | 74 | 69 | 76 | 80 | 83 | 80 | 83 |
| 1891 (8 stations) ..... | 77 | 87 | 84 | 83 | 74 | 66 | 73 | 70 | 73 | 75 | 75 | 84 | 80 |
| 1892 (10 stations) ..... | 80 | 88 | 90 | 83 | 71 | 77 | 80 | 72 | 74 | 77 | 75 | 88 | 89 |

**Table 96.**—*Average per cent of* **cloudiness,** *by year and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877–90. These averages are for groups of several stations in Michigan.* (*Data supplied by State Board of Health.*)

| Years, etc. | Per cent of cloudiness. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877–90... | 56 | 70 | 64 | 58 | 51 | 50 | 48 | 41 | 43 | 46 | 59 | 68 | 75 |
| 1890 (12 stations) ..... | 56 | 72 | 69 | 56 | 44 | 60 | 48 | 35 | 43 | 48 | 71 | 61 | 66 |
| 1891 (11 stations) ..... | 55 | 79 | 70 | 67 | 50 | 40 | 48 | 38 | 47 | 33 | 52 | 50 | 57 |
| 1892 (11 stations) ..... | 57 | 61 | 77 | 48 | 48 | 68 | 60 | 33 | 38 | 38 | 48 | 85 | 89 |

**Table 97.**—*Inches of* **rain and melted snow,** *by year and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877–90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Inches of rain and melted snow. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877-90... | 34.97 | 2.27 | 2.57 | 2.28 | 2.52 | 3.51 | 3.94 | 3.23 | 3.19 | 3.24 | 3.40 | 3.05 | 2.65 |
| 1890 (20 stations) ..... | 30.20 | 3.53 | 2.40 | 2.12 | 3.37 | 4.80 | 3.74 | 1.47 | 3.68 | 2.09 | 4.97 | 2.43 | 1.70 |
| 1891 (17 stations) ..... | 31.66 | 1.91 | 3.13 | 2.74 | 2.03 | 1.33 | 2.53 | 2.55 | 4.41 | 1.92 | 1.71 | 4.86 | 2.54 |
| 1892 (18 stations) ..... | 33.08 | 1.95 | 2.16 | 1.39 | 2.16 | 5.45 | 5.17 | 2.39 | 2.92 | 3.01 | 1.40 | 3.14 | 1.95 |

**Table 98.**—*Average amount of atmospheric* **ozone (day),** *by year and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877–90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Ozone by day,—degree of coloration of test-paper.* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual Av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877-90... | 3.29 | 3.47 | 3.57 | 3.61 | 3.47 | 3.49 | 3.29 | 2.88 | 3.10 | 3.05 | 3.04 | 3.19 | 3.39 |
| 1890 (8 stations)..... | 3.69 | 3.99 | 3.97 | 4.19 | 4.08 | 4.65 | 4.13 | 3.23 | 3.49 | 3.44 | 3.09 | 2.53 | 3.49 |
| 1891 (8 stations)..... | 3.99 | 4.20 | 4.18 | 4.46 | 4.02 | 4.40 | 4.10 | 3.94 | 3.92 | 3.82 | 3.85 | 3.45 | 3.59 |
| 1892 (7 stations)..... | 3.95 | 4.29 | 4.32 | 4.18 | 3.58 | 4.24 | 4.39 | 3.60 | 4.52 | 3.56 | 3.69 | 3.23 | 3.83 |

* Scale of 10 degrees.

**Table 99.**—*Average amount of atmospheric* **ozone (night),** *by year and months, in 1892, compared with annual and monthly averages for 1891, 1890, and for the 14 years, 1877–90. These averages are for groups of several stations in Michigan. (Data supplied by State Board of Health.)*

| Years, etc. | Ozone by night,—degree of coloration of test-paper.* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Annual Av. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| Av. 14 years, 1877-90... | 3.42 | 3.89 | 4.10 | 4.08 | 3.77 | 3.66 | 3.37 | 2.77 | 2.79 | 2.81 | 3.13 | 3.31 | 3.70 |
| 1890 (8 stations)..... | 3.83 | 3.91 | 4.57 | 4.49 | 4.47 | 4.83 | 4.19 | 3.39 | 3.51 | 3.14 | 3.09 | 2.63 | 3.71 |
| 1891 (8 stations)..... | 4.22 | 4.03 | 4.86 | 4.91 | 4.83 | 4.41 | 4.37 | 4.15 | 3.92 | 3.61 | 3.92 | 3.51 | 4.19 |
| 1892 (7 stations)..... | 4.18 | 4.37 | 5.05 | 4.48 | 4.33 | 4.58 | 4.62 | 3.44 | 4.56 | 3.26 | 3.73 | 3.49 | 4.20 |

* Scale of 10 degrees.

**Table 103.**—*Exhibiting, by classified occupations, the number, aggregate and average ages of decedents in Michigan aged twenty years and over, for the year 1892 and for the twenty-two years, 1870-91. (One-half year added to age of each as correction for months not included.)*

| Class. | Occupations. | Year, 1892. | | | Twenty-two years, 1870-91. | | |
|---|---|---|---|---|---|---|---|
| | | Number of persons. | Age in years and tenths of a year. | | Number of persons. | Age in years and tenths of a year. | |
| | | | Aggregate. | Average. | | Aggregate. | Average. |
| | All aged 20 years and over | 11,743 | 649,505.5 | 55.3 | 153,822 | 8,149,233.0 | 53.0 |
| | All specified occupations | 10,178 | 560,041.0 | 55.0 | 142,442 | 7,540,247.5 | 52.9 |
| | Occupations unspecified | 1,565 | 89,464.5 | 57.2 | 11,380 | 608,985.5 | 53.5 |
| I. | *Cultivators of the earth* | 2,444 | 155,079.0 | 63.5 | 37,384 | 2,244,058.5 | 60.0 |
| II. | *Active mechanics abroad* | 294 | 17,791.0 | 60.4 | 4,278 | 230,188.5 | 53.8 |
| III. | *Active mechanics in shops* | 397 | 20,973.5 | 52.3 | 5,517 | 280,891.0 | 50.9 |
| IV. | *Inactive mechanics in shops* | 153 | 7,981.5 | 52.2 | 2,601 | 137,160.5 | 52.7 |
| V. | *Laborers, no special trades* | 1,173 | 54,891.5 | 46.8 | 14,102 | 628,693.0 | 44.6 |
| VI. | *Agents, laborers abroad, etc.* | 300 | 13,989.0 | 46.6 | 3,156 | 139,911.0 | 44.3 |
| VII. | *Seafaring men* | 57 | 2,601.5 | 45.6 | 991 | 42,451.5 | 42.8 |
| VIII. | *Soldiers* | 11 | 639.5 | 58.1 | 118 | 6,686.0 | 56.7 |
| IX. | *Business men* | 477 | 24,041.5 | 50.4 | 6,231 | 300,723.5 | 48.2 |
| X. | *Professional men* | 153 | 8,088.5 | 52.9 | 2,671 | 137,189.5 | 51.4 |
| XI. | *Unemployed* | 933 | 54,985.5 | 58.9 | 8,670 | 489,101.0 | 56.4 |
| XII. | *Females* | 5,351 | 288,425.5 | 53.9 | 68,108 | 3,513,179.0 | 51.6 |
| I. | *Cultivators of the earth* | 2,444 | 155,097.0 | 63.5 | 37,384 | 2,244,058.5 | 60.0 |
| | Farmers | 2,391 | 151,440.5 | 63.3 | 36,889 | 2,214,181.0 | 60.1 |
| | Farm laborers | 3 | 165.5 | 55.2 | 140 | 5,301.0 | 37.8 |
| | Fruit growers | 2 | 137.0 | 68.5 | 19 | 1,133.5 | 59.7 |
| | Gardeners | 25 | 1,655.5 | 66.2 | 315 | 1,875.5 | 59.5 |
| | Nurserymen | 4 | 279.0 | 69.8 | 15 | 806.0 | 53.7 |
| | Retired farmers | 19 | 1,419.5 | 75.2 | 56 | 3,942.0 | 70.4 |
| II. | *Active mechanics abroad* | 294 | 17,791.0 | 60.5 | 4,278 | 230,188.5 | 53.8 |
| | Brickmakers | 2 | 114.0 | 57.0 | 44 | 2,487.5 | 56.5 |
| | Carpenters and builders | 206 | 12,578.0 | 61.1 | 3,098 | 165,630.0 | 53.5 |
| | House movers | 1 | 50.5 | 50.5 | 11 | 610.5 | 55.5 |
| | Masons | 60 | 3,645.0 | 60.8 | 815 | 43,899.0 | 53.9 |
| | Millwrights | 8 | 481.0 | 60.1 | 126 | 8,002.5 | 63.5 |
| | Pavers | | | | 1 | 21.5 | 21.5 |
| | Ship carpenters | 7 | 3,965.0 | 56.6 | 82 | 4,443.0 | 54.2 |
| | Stone cutters | 10 | 526.0 | 52.6 | 101 | 5,094.0 | 50.4 |

**Table 103.—CONTINUED.—*Occupations of decedents, etc.***

| Class. | Occupations. | Year, 1892. | | | Twenty-two years, 1870-91. | | |
|---|---|---|---|---|---|---|---|
| | | Number of persons. | Age in years and tenths of a year. | | Number of persons. | Age in years and tenths of a year. | |
| | | | Aggregate. | Average. | | Aggregate. | Average. |
| III. | *Active mechanics in shops* | 397 | 20,973.5 | 52.8 | 5,517 | 280,891.0 | 50.9 |
| | Bakers | 9 | 395.5 | 43.9 | 151 | 7,962.0 | 52.7 |
| | Blacksmiths | 69 | 3,896.5 | 56.5 | 967 | 54,382.5 | 56.2 |
| | Boiler makers | 7 | 309.5 | 44.2 | 46 | 2,113.5 | 50.3 |
| | Book binders | 2 | 56.0 | 28.0 | 15 | 751.5 | 50.1 |
| | Bottlers | | | | 4 | 114.0 | 28.5 |
| | Brewers | 8 | 391.0 | 48.9 | 135 | 6,410.5 | 47.5 |
| | Broom makers | | | | 15 | 764.5 | 51.0 |
| | Cabinet makers | 14 | 755.0 | 53.9 | 228 | 12,204.0 | 53.5 |
| | Carriage makers | 6 | 424.0 | 70.7 | 164 | 9,412.5 | 57.4 |
| | Carriage trimmers | | | | 17 | 788.0 | 46.4 |
| | Chair makers | 2 | 121 0 | 60.5 | 6 | 263.0 | 43.8 |
| | Confectioners | 1 | 56.5 | 56.5 | 26 | 1,226.0 | 47.2 |
| | Cooks | 5 | 199.5 | 39.9 | 86 | 3,905.5 | 45.4 |
| | Coopers | 32 | 1,957.0 | 61.2 | 481 | 28,015.5 | 58.2 |
| | Coppersmiths | 1 | 74.5 | 74.5 | 11 | 639.0 | 58.1 |
| | Dyers | | | | 19 | 957.5 | 50.4 |
| | Finishers | 2 | 59.0 | 29.5 | 46 | 1,605.5 | 35.0 |
| | Foundrymen | 2 | 137.0 | 68.5 | 20 | 920.0 | 46.0 |
| | Gilders | | | | 8 | 260.0 | 32.5 |
| | Glass blowers | | | | 10 | 368.0 | 36.8 |
| | Gunsmiths | 3 | 201.5 | 67.3 | 54 | 3,179.0 | 58.9 |
| | Machinists | 36 | 1,810.0 | 50.3 | 393 | 17,523.0 | 48.3 |
| | Marble workers | 4 | 205.0 | 50.3 | 55 | 2,716.5 | 49.4 |
| | Mechanics | 24 | 1,475.0 | 61.5 | 580 | 30,198.5 | 51.2 |
| | Millers | 29 | 1,716.5 | 59.2 | 362 | 20,142.0 | 55.6 |
| | Model makers | 4 | 231.0 | 57.8 | 25 | 1,222.5 | 48.9 |
| | Molders | 25 | 1,022.5 | 40.9 | 278 | 10,551.5 | 38.7 |
| | Painters | 51 | 2,312.5 | 45.3 | 686 | 30,229.0 | 44.1 |
| | Plasterers | 2 | 127.0 | 63 5 | 38 | 1,966.5 | 52.5 |
| | Plumbers | 7 | 450.5 | 35.7 | 59 | 2,363.0 | 40.1 |
| | Potters | | | | 6 | 418.0 | 69.7 |
| | Rope makers | | | | 6 | 357.0 | 59.5 |
| | Sail makers | | | | 5 | 236.0 | 47.2 |
| | Saw filers | 2 | 113.0 | 56.5 | 7 | 336.5 | 48.1 |
| | Saw makers | | | | 5 | 235.0 | 47.1 |

**Table 103.**—CONTINUED.—*Occupations of decedents, etc.*

| Class. | Occupations. | Year, 1892. | | | Twenty-two years, 1870-91. | | |
|---|---|---|---|---|---|---|---|
| | | Number of persons. | Age in years and tenths of a year. | | Number of persons. | Age in years and tenths of a year. | |
| | | | Aggregate. | Average. | | Aggregate. | Average. |
| III. | *Active mechanics in shops—Con.* | | | | | | |
| | Sawyers | 6 | 235.0 | 39.2 | 31 | 1,250.5 | 40.3 |
| | Smelters | | | | 7 | 297.5 | 42.5 |
| | Spinners | | | | 53 | 3,790.0 | 71.5 |
| | Stove mounters | 1 | 21.5 | 21.5 | 22 | 803.5 | 36.5 |
| | Tanners | | | | 42 | 2,298.0 | 54.6 |
| | Tinners | 16 | 639.0 | 39.9 | 121 | 5,129.5 | 42.4 |
| | Turners | | | | 34 | 1,614.0 | 47.5 |
| | Unclassified | 5 | 271.5 | 54.3 | 52 | 2,217.0 | 42.6 |
| | Upholsterers | 1 | 21.5 | 21.5 | 25 | 971.5 | 38.9 |
| | Wagon makers | 15 | 1,038.5 | 69.2 | 97 | 5,861.0 | 60.4 |
| | Weavers | 2 | 127.0 | 63.5 | 30 | 2,105.5 | 70.2 |
| | Wood carvers | 4 | 124.0 | 31.0 | 14 | 576.0 | 41.1 |
| IV. | *Inactive mechanics in shops* | 153 | 7,981.5 | 52.2 | 2,601 | 137,160.5 | 52.7 |
| | Barbers | 21 | 762.5 | 36.3 | 231 | 8,949.5 | 38.7 |
| | Basket makers | | | | 25 | 1,710.0 | 68.4 |
| | Cigar makers | 16 | 629.0 | 39.3 | 202 | 7,360.5 | 35.9 |
| | Furriers | 2 | 104.0 | 52.0 | 3 | 187.0 | 62.3 |
| | Harness makers | 15 | 728.5 | 48.6 | 207 | 10,005.5 | 48.3 |
| | Hatters | | | | 21 | 1,150.5 | 54.8 |
| | Jewelers | 8 | 406.0 | 50.8 | 144 | 7,158.5 | 49.7 |
| | Lithographers | | | | 7 | 183.0 | 26.1 |
| | Printers | 10 | 433.0 | 43.3 | 207 | 7,536.0 | 36.4 |
| | Shoemakers | 49 | 3,244.5 | 66.2 | 978 | 59,710.0 | 61.1 |
| | Silversmiths | | | | 8 | 465.0 | 58.1 |
| | Tailors | 32 | 1,674.0 | 52.3 | 568 | 32,850.0 | 57.8 |
| V. | *Laborers, no special trades* | 1,173 | 54,891.5 | 46.8 | 14,102 | 628,693.0 | 44.6 |
| | Choppers | 1 | 29.5 | 29.5 | 10 | 369.0 | 36.9 |
| | Ditchers | 1 | 60.5 | 60.5 | 11 | 653.5 | 59.4 |
| | Janitors | 5 | 300.5 | 60.1 | 48 | 2,816.0 | 58.7 |
| | Laborers | 947 | 46,376.5 | 49.0 | 11,733 | 536,617.5 | 45.7 |
| | Loggers | | | | 29 | 961.5 | 33.2 |
| | Mill hands | 4 | 191.0 | 47.8 | 189 | 7,717.5 | 40.8 |
| | Miners | 143 | 5,285.5 | 37.0 | 1,660 | 62,236.0 | 37.5 |
| | Miscellaneous | 33 | 1,239.5 | 37.6 | 211 | 9,565.0 | 45.3 |

**Table 103.**—CONTINUED.—*Occupations of decedents, etc.*

| Class. | Occupations. | Year, 1892. | | | Twenty-two years, 1870 91. | | |
|---|---|---|---|---|---|---|---|
| | | Number of persons. | Age in years and tenths of a year. | | Number of persons. | Age in years and tenths of a year. | |
| | | | Aggregate. | Average. | | Aggregate. | Average. |
| V. | *Laborers, no special trades—Con.* | | | | | | |
| | Porters | 7 | 248.5 | 35.5 | 22 | 962.0 | 43.6 |
| | Rivermen | 3 | 134.5 | 44.8 | 14 | 418.0 | 29.8 |
| | Salt packers | | | | 4 | 223.0 | 55.8 |
| | Servants | 1 | 74.5 | 74.5 | 41 | 1,546.5 | 38.9 |
| | Well diggers | 1 | 38.5 | 38.5 | 17 | 697.0 | 41.0 |
| | Woodsmen | 27 | 912.5 | 33.8 | 113 | 3,967.0 | 35.0 |
| VI. | *Agents, laborers abroad, etc.* | 300 | 13,970.0 | 46.6 | 3,156 | 139,911.0 | 44.3 |
| | Agents | 19 | 844.5 | 44.4 | 198 | 9,141.0 | 46.2 |
| | Baggagemen | 2 | 115.0 | 57.5 | 31 | 1,278.0 | 41.2 |
| | Brakemen | 15 | 444.5 | 29.6 | 212 | 6,166.5 | 29.0 |
| | Butchers | 25 | 1,292.5 | 51.6 | 273 | 17,227.0 | 63.0 |
| | Coachmen | 1 | 38.5 | 38.5 | | | |
| | Collectors | 2 | 126.5 | 63.2 | 14 | 992.5 | 70.9 |
| | Commercial travelers | 10 | 520.0 | 52.0 | 113 | 7,466.0 | 66.0 |
| | Conductors | 6 | 266.0 | 44.3 | 60 | 4,042.0 | 67.3 |
| | Constables | 2 | 87.0 | 43.5 | 16 | 781.0 | 48.8 |
| | Draymen | 14 | 768.0 | 54.8 | 116 | 6,484.0 | 55.9 |
| | Drovers | 2 | 119.0 | 59.5 | 62 | 3,721.0 | 60.0 |
| | Engineers | 66 | 2,958.0 | 44.8 | 196 | 8,596.0 | 43.8 |
| | Expressmen | 2 | 112.0 | 56.0 | 12 | 660.0 | 55.0 |
| | Firemen | 12 | 632.0 | 52.6 | 48 | 2,520.0 | 52.5 |
| | Hackmen | 5 | 215.0 | 43.0 | 45 | 2,022.0 | 44.9 |
| | Hostlers | 4 | 176.0 | 44.0 | 28 | 1,213.0 | 43.3 |
| | Hunters and trappers | 4 | 180.0 | 45.0 | 91 | 4,104.0 | 45.0 |
| | Indian chief | | | | 1 | 104.0 | 104.0 |
| | Inspectors of customs and weighers | 2 | 94.0 | 47.0 | 12 | 564.0 | 47.0 |
| | Journeymen | 2 | 93.0 | 46.5 | 11 | 510.0 | 46.4 |
| | Masons | 2 | 94.0 | 47.0 | 11 | 489.0 | 44.5 |
| | Milk peddlers | | | | 22 | 968.0 | 44.0 |
| | Overseers and superintendents | 2 | 94.0 | 47.0 | 7 | 329.0 | 47.0 |
| | Peddlers | 3 | 138.0 | 46.0 | 276 | 12,696.0 | 46.0 |
| | Policemen | 2 | 88.0 | 44.0 | 98 | 4,312.0 | 44.0 |
| | Railroad employees | 3 | 132.0 | 44.0 | 102 | 4,590.0 | 45.0 |
| | Railroad engineers | 3 | 138.0 | 46.0 | 31 | 1,426.0 | 46.0 |
| | Railroad firemen | | 46.0 | 46.0 | 14 | 644.0 | 46.0 |

**Table 103.**—CONTINUED.—*Occupations of decedents, etc.*

| Class. | Occupations. | Year, 1892. | | | Twenty-two years, 1870-91. | | |
|---|---|---|---|---|---|---|---|
| | | Number of persons. | Age in years and tenths of a year. | | Number of persons. | Age in years and tenths of a year. | |
| | | | Aggregate. | Average. | | Aggregate. | Average. |
| | *Agents, etc.—Continued.* | | | | | | |
| | Railroad laborers | 2 | 62.0 | 31.0 | 170 | 7,337.0 | 43.2 |
| | Railroad men | 25 | 1,116.5 | 44.7 | 146 | 5,982.0 | 41.0 |
| | Sextons | 4 | 252.0 | 63.0 | 9 | 509.5 | 56.6 |
| | Station agents | 1 | 33.5 | 33.5 | 12 | 509.5 | 42.5 |
| | Switchmen | 1 | 23.5 | 23.5 | 37 | 1,245.5 | 33.7 |
| | Teamsters | 29 | 1,401.5 | 48.3 | 319 | 14,325.0 | 44.9 |
| | Tollgate keepers | ---- | ---- | ---- | 5 | 302.5 | 60.5 |
| | Waiters | 1 | 20.5 | 20.5 | 10 | 359.5 | 36.0 |
| | Watchmen | 10 | 642.0 | 64.2 | 43 | 2,353.5 | 54.8 |
| | Whitewashers | ---- | ---- | ---- | 11 | 721.5 | 65.6 |
| VII. | *Seafaring men* | 57 | 2,601.5 | 45.6 | 991 | 42,451.5 | 42.8 |
| | Fishermen | 12 | 593.0 | 49.4 | 160 | 7,529.5 | 47.1 |
| | Officers | 7 | 378.5 | 54.1 | 78 | 3,899.0 | 50.0 |
| | Sailors | 38 | 1,630.0 | 42.9 | 748 | 30,732.0 | 41.1 |
| | United States navy | ---- | ---- | ---- | 5 | 290.5 | 58.1 |
| VIII. | *Soldiers* | 11 | 639.5 | 58.1 | 118 | 6,686.0 | 56.7 |
| | Officers | 2 | 89.0 | 44.5 | 7 | 376.5 | 53.8 |
| | Soldiers | 9 | 550.5 | 61.2 | 111 | 6,309.5 | 56.8 |
| IX. | *Business men* | 477 | 24,041.5 | 50.4 | 6,231 | 300,723.5 | 48.2 |
| | Auctioneers | 1 | 54.5 | 54.5 | 9 | 517.0 | 57.4 |
| | Bankers | 5 | 272.5 | 54.5 | 128 | 7,593.0 | 59.3 |
| | Bookkeepers | 40 | 1,838.0 | 45.9 | 317 | 14,055.0 | 44.3 |
| | Capitalists | 19 | 1,400.5 | 73.7 | 122 | 8,015.0 | 65.7 |
| | Clerks | 67 | 2,500.5 | 37.3 | 939 | 31,993.0 | 34.1 |
| | Commission merchants | 2 | 121.0 | 60.5 | 28 | 1,616.0 | 57.7 |
| | Contractors and jobbers | 6 | 317.0 | 52.8 | 105 | 6,034.0 | 57.4 |
| | Furniture dealers | 1 | 43.5 | 43.5 | 14 | 742.0 | 53.0 |
| | Grain buyers | 3 | 173.5 | 57.7 | 26 | 1,311.0 | 50.4 |
| | Grocers | 15 | 769.5 | 51.3 | 280 | 13,695.0 | 48.9 |
| | Hotel clerks | 2 | 96.0 | 48.0 | 14 | 563.0 | 40.2 |
| | Hotel keepers | 25 | 1,330.5 | 53.2 | 376 | 19,832.0 | 52.7 |
| | Insurance agents | 8 | 453.0 | 56.6 | 100 | 5,431.5 | 54.3 |
| | Justices of the peace | 2 | 114.0 | 57.0 | 49 | 2,677.5 | 54.6 |
| | Liquor dealers | 4 | 191.0 | 47.8 | 26 | 1,189.0 | 45.7 |

**Table 103.**—CONTINUED.—*Occupations of decedents, etc.*

| Class. | Occupations. | Year, 1892. | | | Twenty-two years, 1870-91. | | |
|---|---|---|---|---|---|---|---|
| | | Number of persons. | Age in years and tenths of a year. | | Number of persons. | Age in years and tenths of a year. | |
| | | | Aggregate. | Average. | | Aggregate. | Average. |
| | *Business men.—Continued.* | | | | | | |
| | Liverymen | 6 | 222.0 | 37.0 | 93 | 4,250.0 | 45.7 |
| | Lumbermen | 45 | 2,160.5 | 48.0 | 606 | 28,256.0 | 46.6 |
| | Manufacturers | 19 | 992.5 | 52.2 | 218 | 11,307.5 | 51.9 |
| | Merchants | 110 | 6,185.0 | 56.2 | 1,641 | 87,268.5 | 53.2 |
| | Mill owners | ..... | ..... | ..... | 9 | 505.5 | 56.2 |
| | News agents | 1 | 32.5 | 32.5 | 12 | 469.0 | 39.1 |
| | Public officers | 15 | 836.5 | 55.4 | 173 | 9,071.0 | 52.4 |
| | Real estate dealers | 11 | 661.5 | 60.1 | 129 | 7,826.0 | 60.7 |
| | Restaurant keepers | 1 | 68.5 | 68.5 | 30 | 1,496.0 | 49.9 |
| | Salesmen | 13 | 481.5 | 37.0 | 125 | 5,407.0 | 43.3 |
| | Saloon keepers | 34 | 1,476.0 | 43.4 | 546 | 24,165.0 | 44.3 |
| | Undertakers | 7 | 470.5 | 67.2 | 30 | 1,675.0 | 55.8 |
| | All others | 15 | 785.5 | 52.4 | 86 | 4,674.0 | 54.3 |
| X. | *Professional men* | 153 | 8,088.5 | 52.9 | 2,671 | 137,189.5 | 51.4 |
| | Actors | 1 | 52.5 | 52.5 | 14 | 580.0 | 41.4 |
| | Architects | ..... | ..... | ..... | 16 | 755.0 | 47.2 |
| | Artists | 1 | 29.5 | 29.5 | 44 | 1,879.0 | 42.7 |
| | Attorneys at law | 22 | 1,142.0 | 51.9 | 381 | 20,529.5 | 53.9 |
| | Civil engineers | 1 | 31.5 | 31.5 | 43 | 2,521.0 | 58.6 |
| | Clergymen | 21 | 1,377.5 | 65.6 | 457 | 29,279.0 | 64.1 |
| | Dentists | 1 | 58.5 | 58.5 | 70 | 3,235.0 | 46.2 |
| | Draughtsmen | 3 | 166.5 | 55.5 | 7 | 390.0 | 55.7 |
| | Druggists | 18 | 888.0 | 49.3 | 188 | 8,338.0 | 44.4 |
| | Editors | 2 | 118.0 | 59.0 | 58 | 2,665.5 | 46.0 |
| | Electricians | 6 | 176.0 | 29.3 | 6 | 173.0 | 28.8 |
| | Judges | ..... | ..... | ..... | 5 | 289.0 | 57.8 |
| | Lecturers | ..... | ..... | ..... | 2 | 100.0 | 50.0 |
| | Musicians | 3 | 188.5 | 62.8 | 73 | 3,360.5 | 46.0 |
| | Opticians | ..... | ..... | ..... | 7 | 280.0 | 40.0 |
| | Photographers | 2 | 123.0 | 61.5 | 37 | 1,441.0 | 38.9 |
| | Physicians and surgeons | 40 | 2,352.0 | 58.8 | 696 | 39,372.0 | 56.6 |
| | Stenographers | 1 | 22.5 | 22.5 | 7 | 240.0 | 34.3 |
| | Students | 7 | 167.5 | 23.9 | 115 | 2,732.5 | 23.8 |
| | Surveyors | 2 | 152.0 | 76.0 | 18 | 1,164.5 | 64.7 |
| | Teachers | 14 | 640 0 | 45.7 | 302 | 12,862.0 | 42.6 |

# PART V.—REGISTRATION OF VITAL STATISTICS IN THE CITIES OF MICHIGAN.

So far as known to the present compiler no attention has ever been given in previous registration reports of this State to the important subject of the registration of vital statistics in the cities of Michigan, considered apart from the general results shown by the counties of which they form a part. From this statement may be excepted the following paragraph from the "Introductory Remarks" of the last report (1891), in fulfillment of the promise contained wherein the present study of municipal registration in Michigan is presented:

"Lastly, a very important subject has not been entered upon in this report except to the extent of a preliminary table (Exhibit H), designed to suggest the importance of its study. No statements have ever been given in these reports of the births or deaths that occur in the cities of the State, except as the population of the cities is included in that of the various counties. The facts taken from the last census show that the urban population is increasing much faster in Michigan than the rural. The birth-rates and death-rates of our cities are probably markedly higher than that of the country surrounding them. It is time that some authentic information was given on this subject, and in the report for 1892, now in preparation, an effort will be made to present certain details of importance in regard to the vital statistics of the cities of Michigan."

The study of the deaths that occur in the cities of the State would be necessary were the present registration law more perfect. It is rendered of special interest at present from the fact that the registration returns under the State registration law very inadequately represent the actual mortality of the State, and the results of the local municipal registration of deaths, as pointed out on page 4 of the present report, give some valuable clues as to the actual death-rate of Michigan. There have never been presented in these reports any reliable tables showing the distribution of total deaths or deaths from particular diseases through the several months of the year. In the local reports issued by several of the cities of the State, we find such data, which, though covering only a limited area and an area possibly not representative of average conditions, are of great value in the absence of any other.

It was thought necessary in the study of the results of registration in cities to include more than the single year 1892, in order to supply a suitable background for comparison. The results for a single year are difficult of interpretation, unless data are at hand enabling comparisons to be made with other years. The three years 1890-92, inclusive,

were selected since the positive rates of births and deaths to enumerated populations would be available for 1890. and the addition of the years 1891 and 1892 would bring the data up to that for the State as a whole presented in this and the preceding registration reports. Birth-rates and death-rates for 1891 and 1892 are based upon the average annual increase of population as shown by comparison of the United States census of 1890 and the State census of 1894. The population of the State according to the State census of 1894 was 2,241,914 persons, a number slightly larger than the preliminary statement used on page 180. This number, indeed, will probably be increased somewhat when the result of the final count is known, but for all practical purposes the present statement is substantially correct. The order of discussion of the subjects treated in this portion of the report will be as follows:—

1.—Population of the cities of Michigan.

2.- Births and deaths in the cities of Michigan according to the State registration system, 1890-92.

3.—Local municipal registration:

(*a*) Provisions relating to registration in the charters of Michigan cities.

(*b*) City ordinances relating to registration.

(1) Forms of certificates of death in use in certain cities of Michigan.

(2) Forms of burial permits in use in certain cities of Michigan.

(*c*) Practical results of local registration in Detroit, Grand Rapids and other cities of the State.

A statement showing the contents of tables is appended:

*Synopsis of tables relating to registration in cities.*

| Table. | Vital statistics of cities in Michigan, 1890-92. |
|---|---|
| 104. | Population of the cities of Michigan according to the State censuses of 1884 and 1894 and the United States census of 1890. |
| 105. | Births and deaths and birth-rates and death-rates of Michigan cities according to the returns under the State system of registration for each of the years 1890-92. |
| 106. | Status of local municipal registration of vital statistics in Michigan, containing references to provisions of charters and ordinances relating to registration, officers acting as local registrars, and whether certificates of death and burial permits are required. |
| 107. | Deaths registered from important diseases and groups of diseases in Detroit, by months, for each of the years 1890-92, inclusive. |
| 108. | Deaths registered from important diseases and groups of diseases in Grand Rapids, by months, for each of the years 1890-92, inclusive. |
| 109. | Comparative mortality in certain cities of the United States for the year 1892. |

## 1. POPULATION OF THE CITIES OF MICHIGAN.

The following table, taken from the preliminary anouncement of the State census of 1894 and corrected for additional returns up to Sept. 18, 1894, by Mr. Robert L. Hewitt, in charge of the census compilation, shows the population of each city in the State according to the last three censuses. The word *city* refers merely to incorporation under the State law as such and not, necessarily, to places of considerable size and density of population. In three instances the populations of "cities" included in this list are below 1,000 persons; in many cases the number of inhabitants is less than 4,000, the usually accepted minimum for a city population.

**Table 104.**—*Population of cities of Michigan according to the State censuses of 1884 and 1894 and the United States census of 1890.*

| Cities. | 1894. | 1890. | 1884. | Cities. | 1894. | 1890. | 1884. |
|---|---|---|---|---|---|---|---|
| All cities | 821,107 | 711,263 | 509,277 | Iron Mountain | 7,640 | 8,999 | ..... |
| | | | | Ironwood | 9,329 | 7,745 | ..... |
| Adrian | 9,511 | 8,756 | 9,319 | Ishpeming | 11,689 | 11,197 | 6,849 |
| Albion | 4,845 | 3,763 | ..... | Jackson | 23,627 | 20,798 | 19,100 |
| Alpena | 12,139 | 11,283 | 9,196 | Kalamazoo | 21,068 | 17,853 | 13,909 |
| Ann Arbor | 11,071 | 9,431 | 7,912 | Lansing | 15,834 | 13,102 | 9,774 |
| Au Sable | 2,661 | 4,328 | ..... | Lapeer | 2,953 | 2,753 | 2,894 |
| Battle Creek | 15,523 | 13,197 | 10,051 | Ludington | 8,244 | 7,517 | 5,431 |
| Bay City | 30,043 | 27,839 | 29,412 | Manistee | 13,452 | 12,812 | 10,367 |
| Belding | 3,007 | ..... | ..... | Marine City | 3,486 | 3,268 | ..... |
| Bessemer | 2,529 | 2,566 | ..... | Marquette | 9,724 | 9,093 | 5,690 |
| Big Rapids | 5,203 | 5,303 | 5,902 | Marshall | 4,599 | 3,968 | 4,079 |
| Benton Harbor | 5,315 | ..... | ..... | Mason | 1,761 | 1,875 | 1,994 |
| Cadillac | 5,105 | 4,461 | 3,907 | Menominee | 12,536 | 10,630 | 5,577 |
| Charlotte | 4,351 | 3,867 | 3,595 | Midland | 2,485 | 2,277 | ..... |
| Cheboygan | 6,956 | 6,235 | ..... | Monroe | 5,614 | 5,258 | 5,281 |
| Clare | 1,392 | ..... | ..... | Mt. Clemens | 5,647 | 4,748 | 3,925 |
| Coldwater | 5,285 | 5,247 | 5,099 | Mt. Pleasant | 3,179 | 2,701 | ..... |
| Corunna | 1,551 | 1,382 | 1,451 | Muskegon | 20,229 | 22,702 | 17,525 |
| Detroit | 287,835 | 205,876 | 132,956 | Negaunee | 5,940 | 6,078 | 4,110 |
| Dowagiac | 3,532 | 2,806 | 2,849 | Niles | 4,508 | 4,197 | 4,606 |
| Eaton Rapids | 2,157 | 1,970 | 2,129 | North Muskegon | 912 | ..... | ..... |
| Escanaba | 8,124 | 6,808 | 4,335 | Norway | 3,588 | ..... | ..... |
| Flint | 10,422 | 9,803 | 9,017 | Owosso | 8,274 | 6,564 | 3,868 |
| Gladstone | 2,180 | 1,337 | ..... | Pontiac | 7,276 | 6,200 | 5,847 |
| Gladwin | 883 | ..... | ..... | Port Huron | 18,147 | *a* 16,375 | 10,388 |
| Grand Haven | 5,268 | 5,023 | 5,903 | Saginaw | 44,641 | 46,322 | *b* 42,345 |
| Grand Ledge | 2,218 | 1,606 | ..... | Sault Ste. Marie | 7,246 | 5,760 | ..... |
| Grand Rapids | 79,434 | 60,278 | 41,898 | St. Clair | 2,576 | 2,353 | 2,081 |
| Greenville | 3,113 | 3,056 | 3,063 | St. Ignace | 2,071 | 2,704 | 2,236 |
| Harrison | 746 | ..... | ..... | St. Joseph | 4,519 | ..... | ..... |
| Hastings | 3,015 | 2,972 | 2,632 | St. Louis | 2,204 | ..... | ..... |
| Hillsdale | 4,121 | 3,915 | 3,549 | Stanton | 1,303 | 1,352 | 1,721 |
| Holland | 6,307 | 3,945 | 2,972 | West Bay City | 12,337 | 12,981 | 9,490 |
| Hudson | 2,346 | ..... | ..... | Wyandotte | 4,209 | 3,817 | 3,570 |
| Ionia | 5,021 | 4,482 | 4,641 | Ypsilanti | 6,111 | 6,129 | 5,801 |

*a* Includes population of Fort Gratiot, 2,832, consolidated with Port Huron in 1893.
*b* Includes population of East Saginaw, consolidated with Saginaw in 1890.

In connection with this table the following statements in regard to the numbers of incorporated cities and the percentages of population contained in them to the total population of the State as recorded by different censuses will be of interest. The increased proportion of the population residing in cities is by no means peculiar to Michigan, but is simply an illustration of the general tendency of the population of this country in recent years. According to a table given in the Compendium of the Eleventh United States Census (1890), the percentages of city population were as follows for recent census years in the United States: 1860, 16.13; 1870, 20.93; 1880, 22.57; 1890, 29.30. It thus appears that the tendency to urban preponderance has been greater in Michigan than the average of the entire country, and it is significant that the high percentage of gain in the city population of the State from 1880 to 1890 is maintained from 1884 to 1894.

*Cities of Michigan—Increase in numbers and percentage to total population, 1864–94.*

| Year of census. | Number of incorporated cities. | Per cent of total population. |
|---|---|---|
| 1864 | 19 | 16 |
| 1870 | 29 | 19 |
| 1874 | 38 | 24 |
| 1880 | 43 | 24 |
| 1884 | 49 | 27 |
| 1890 | 61 | 34 |
| 1894 | 70 | 37 |

"The 61 cities in the State in 1890 show an increase of 84,848, or 11.93 per cent. The increase outside of these cities was 60,637, or 4.39 per cent.

"The 49 cities in the State in 1884 show an increase of 232,130, or 45.58 per cent. The increase outside of these cities is 155,212, or 11.55 per cent. In other words since 1884 the rate of increase of population in the 49 cities has been about four times the rate of increase in the balance of the State."

There were 38 cities and one village in Michigan in 1890 with populations over 4,000. These 39 cities and villages showed a gain in population from 1880 to 1890 of 70.09 per cent, while the State at large gained only 27.92 per cent and the country population (exclusive of cities and villages of 4,000 inhabitants) gained only 15.17 per cent.

## BIRTHS AND DEATHS IN THE CITIES OF MICHIGAN AS RETURNED UNDER THE STATE SYSTEM OF REGISTRATION, 1890–92.

Table 105 presents the results of the State system of enumeration of births and deaths for each city of the State for three years, 1890–92. The numbers of births and deaths returned for certain cities are seen to vary widely in different years, probably on account of greater or less thoroughness in making the enumeration. For the city of Detroit, however, the element of fraud largely enters, as explained on a previous page of this report (p. 8), and the results given for that city are not only worthless in themselves but vitiate the rates for the cities as a whole and for the State. For this reason the city of Detroit is eliminated from the following comparison of city and country birth-rates and death-rates, and the rates given for the cities of the State *exclusive of Detroit* are more reliable than those given for all cities in Table 105.

*Comparison of the city and country birth-rates and death-rates in Michigan, as returned, 1890-92.*

| City and country. | Births per 1,000 population. | | | Deaths per 1,000 population. | | |
|---|---|---|---|---|---|---|
| | 1892. | 1891. | 1890. | 1892. | 1891. | 1890. |
| State | 21.3 | 23.8 | 25.0 | 10.0 | 10.4 | 10.3 |
| Cities exclusive of Detroit | 24.3 | 21.4 | 23.3 | 12.7 | 11.9 | 11.1 |
| Country | 18.0 | 19.6 | 17.6 | 8.3 | 8.4 | 8.1 |

Both the birth-rates and death-rates of the urban population are seen to be higher than those of the rural population of the State, but it is probable that the difference is slightly exaggerated in the above comparison owing to the fact that registration is somewhat more accurate on the whole in the cities. In some cities it is evident that the results of immediate local registration have been used in making the returns, and in such cases many deaths are included that would have been overlooked if the periodical enumeration had been depended upon alone. *The fact that one city shows a higher degree of mortality than another in Table 105 must not be taken as conclusive evidence that more unsanitary conditions exist until the relative accuracy of the enumeration of deaths is determined.* These statistics ought, it is true, to be a reliable guide in ascertaining the comparative healthfulness of different portions of the State and of its various cities, but the percentage of omissions is so large and so irregularly distributed under the present imperfect law that very few definite statements of value can be made in regard thereto.

It should be understood that the frauds in the returns of births and deaths from the city of Detroit referred to above are found in the returns made by appointees of the Common Council to the County Clerk under the State registration law, and do not apply in any respect to the system of immediate registration of births and deaths in that city conducted by the city board of health. Indeed, the results of the latter system are very important as evidence of the falsity of the enumerators' returns, which largely exceed them, contrary to what would naturally be the case. On a following page the results of the immediate registration of deaths in Detroit and certain other cities are presented, and direct comparisons may be made with those given for the same cities in Table 105.

### 3. LOCAL MUNICIPAL REGISTRATION OF DEATHS IN MICHIGAN.

The registration of vital statistics in the cities of Michigan, as provided for by local regulations, is concerned chiefly with the recording of deaths; six cities, however, Detroit, Gladstone, Grand Rapids, Menominee, Muskegon and Port Huron, have clauses in their charters authorizing the registration of births, and those of two cities, Detroit and Muskegon, provide further for the return of marriages. This latter provision is of little practical importance, for the State law regulating the registration of marriages is perfectly satisfactory in its results. The registration of births began in Detroit in 1893, nearly a year later than the last year studied in this report, so that the results of registration of births under local regulations are practically confined to the single city of Grand Rapids.

**Table 105.**—*Births and deaths returned by the State enumeration from the cities of Michigan for the years 1890 92, inclusive; with rates per 1,000 estimated population for each of these years.*

| Cities. | Births enumerated. | | | Deaths enumerated. | | | Birth-rates per 1,000 population. | | | Death-rates per 1,000 population. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1892. | 1891. | 1890. | 1892. | 1891. | 1890. | 1892. | 1891. | 1890. | 1892. | 1891. | 1890. |
| All cities | 21,029 | 23,533 | 23,014 | 10,006 | 10,356 | 10,496 | 27.4 | 31.9 | 29.4 | 13.1 | 14.0 | 14.8 |
| Adrian | 153 | 155 | 138 | 100 | 106 | 96 | 16.8 | 17.3 | 15.8 | 10.9 | 11.9 | 11.2 |
| Albion | 63 | 45 | 40 | 35 | 37 | 36 | 14.6 | 11.2 | 10.6 | 8.1 | 9.2 | 9.6 |
| Alpena | 343 | 286 | 235 | 139 | 123 | 94 | 29.3 | 24.9 | 20.8 | 11.7 | 10.7 | 8.3 |
| Ann Arbor | 140 | 114 | 132 | 113 | 125 | 91 | 13.7 | 11.6 | 14.0 | 11.0 | 12.7 | 9.6 |
| Au Sable | 83 | 96 | 69 | 32 | 35 | 30 | 23.7 | 24.5 | 15.9 | 9.2 | 8.9 | 6.9 |
| Battle Creek | 232 | 75 | 143 | 105 | 103 | 70 | 16.2 | 5.4 | 10.8 | 7.3 | 7.5 | 5.3 |
| Bay City | 780 | 837 | 864 | 274 | 304 | 302 | 27.0 | 29.5 | 31.0 | 9.5 | 10.7 | 10.8 |
| Belding* | | | | | | | | | | | | |
| Bessemer | 95 | 60 | 67 | 37 | 22 | 21 | 37.3 | 23.5 | 26.1 | 14.5 | 8.6 | 8.2 |
| Big Rapids | 105 | 98 | 88 | 39 | 51 | 45 | 20.0 | 17.6 | 16.6 | 7.4 | 9.7 | 8.5 |
| Benton Harbor | 60 | 41 | | 28 | 42 | | | | | | | |
| Cadillac | 102 | 151 | 95 | 27 | 28 | 20 | 21.3 | 32.7 | 21.3 | 5.6 | 6.1 | 4.5 |
| Charlotte | 13 | 53 | 39 | 19 | 58 | 49 | 3.2 | 13.3 | 10.1 | 4.6 | 14.5 | 12.7 |
| Cheboygan | 145 | 134 | 160 | 40 | 57 | 39 | 22.0 | 20.9 | 25.7 | 6.1 | 8.9 | 6.3 |
| Clare* | 33 | 20 | | 9 | 13 | | | | | | | |
| Coldwater | 72 | 79 | 88 | 92 | 68 | 91 | 13.7 | 15.0 | 15.8 | 17.5 | 12.9 | 17.3 |
| Corunna | 12 | 10 | 7 | 8 | 6 | 10 | 8.2 | 7.0 | 5.1 | 5.5 | 4.2 | 7.2 |
| Detroit | 7,324 | 12,305 | 16,225 | 3,139 | 4,092 | 4,910 | 35.2 | 57.5 | 78.8 | 14.2 | 19.1 | 23.8 |
| Dowagiac | 21 | 58 | 62 | 9 | 10 | 33 | 6.6 | 17.7 | 22.1 | 2.8 | 3.3 | 11.8 |
| Eaton Rapids | 34 | 35 | 51 | 33 | 27 | 22 | 16.5 | 17.4 | 25.9 | 16.0 | 13.4 | 11.2 |
| Escanaba | 267 | 192 | 296 | 79 | 120 | 95 | 35.8 | 26.9 | 43.5 | 10.6 | 16.8 | 14.0 |
| Flint | 140 | 150 | 116 | 121 | 90 | 106 | 13.8 | 15.1 | 11.8 | 12.0 | 9.0 | 10.8 |
| *Fort Gratiot*† | | *70* | *45* | | *23* | *18* | | | *11.7* | | | *8.4* |
| Gladstone | 50 | 9 | 28 | 14 | 4 | 9 | 28.8 | 5.9 | 20.9 | 8.1 | 2.6 | 6.7 |
| Gladwin* | | | | | | | | | | | | |
| Grand Haven | 113 | 145 | 142 | 92 | 86 | 74 | 22.0 | 28.5 | 28.3 | 17.9 | 16.9 | 14.7 |
| Grand Ledge* | | | | 32 | | | | | | | | |
| Grand Rapids | 1,800 | 1,710 | 1,744 | 947 | 854 | 962 | 25.8 | 26.3 | 28.9 | 13.6 | 13.1 | 16.0 |
| Greenville | 32 | 19 | 34 | 16 | 13 | 22 | 10.4 | 6.2 | 11.1 | 5.2 | 4.2 | 7.2 |
| Harrison* | 9 | 6 | | 6 | 6 | | | | | | | |
| Hastings | 40 | 39 | 42 | 32 | 39 | 23 | 13.4 | 13.1 | 14.1 | 10.7 | 13.1 | 7.7 |
| Hillsdale | 17 | 22 | 31 | 42 | 42 | 45 | 4.2 | 5.5 | 7.9 | 10.5 | 10.6 | 11.5 |
| Holland | 160 | 130 | 126 | 51 | 52 | 79 | 31.2 | 28.7 | 31.9 | 9.9 | 11.5 | 20.0 |
| Hudson* | | | | | | | | | | | | |
| Ionia | 81 | 62 | 48 | 56 | 35 | 22 | 17.0 | 13.4 | 10.7 | 11.8 | 7.6 | 4.9 |

**Table 105.**—CONCLUDED.—*Births and deaths in cities, 1890–92.*

| Cities. | Births enumerated. | | | Deaths enumerated. | | | Birth-rates per 1,000 population. | | | Death-rates per 1,000 population. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1892. | 1891. | 1890. | 1892. | 1891. | 1890. | 1892. | 1891. | 1890. | 1892. | 1891. | 1890. |
| Iron Mountain | 365 | 185 | 356 | 90 | 119 | 113 | 45.0 | 22.1 | 41.4 | 11.1 | 14.2 | 13.1 |
| Ironwood | 485 | 375 | 104 | 379 | 183 | 40 | 56.8 | 46.1 | 13.4 | 44.4 | 22.5 | 5.2 |
| Ishpeming | 430 | 385 | 413 | 112 | 240 | 210 | 37.6 | 34.0 | 36.9 | 9.8 | 21.2 | 18.8 |
| Jackson | 290 | 300 | 282 | 282 | 204 | 249 | 13.4 | 14.1 | 13.6 | 13.0 | 9.6 | 12.0 |
| Kalamazoo | 400 | 386 | 341 | 209 | 215 | 227 | 20.6 | 20.7 | 19.1 | 10.7 | 11.5 | 12.7 |
| Lansing | 375 | 258 | 308 | 216 | 178 | 169 | 25.9 | 18.7 | 23.5 | 14.9 | 12.9 | 12.9 |
| Lapeer | 12 | 35 | 15 | 34 | 22 | 15 | 4.2 | 12.5 | 5.4 | 11.9 | 7.8 | 5.4 |
| Ludington | 230 | 242 | 210 | 91 | 91 | 70 | 29.2 | 31.4 | 27.9 | 11.5 | 11.8 | 9.3 |
| Manistee | 407 | 400 | 440 | 111 | 195 | 176 | 31.0 | 30.8 | 34.3 | 8.5 | 15.0 | 13.7 |
| Marine City | 90 | 105 | 95 | 53 | 30 | 33 | 26.7 | 31.6 | 29.1 | 15.7 | 9.0 | 10.1 |
| Marquette | 305 | 158 | 142 | 134 | 91 | 51 | 32.4 | 17.1 | 15.6 | 14.2 | 9.8 | 5.6 |
| Marshall | 65 | 64 | 45 | 37 | 31 | 54 | 15.2 | 15.5 | 11.3 | 8.6 | 7.5 | 13.6 |
| Mason | 30 | 25 | 21 | 31 | 33 | 32 | 16.5 | 13.5 | 11.2 | 17.1 | 17.9 | 17.1 |
| Menominee | 457 | 320 | 357 | 101 | 76 | 86 | 39.5 | 28.8 | 33.6 | 8.7 | 6.8 | 8.1 |
| Midland | 35 | 38 | 34 | 24 | 13 | 20 | 14.7 | 16.3 | 14.9 | 10.1 | 5.6 | 8.8 |
| Monroe | 62 | 81 | 90 | 59 | 59 | 57 | 11.4 | 15.1 | 17.1 | 10.9 | 11.0 | 10.8 |
| Mt. Clemens | 113 | 88 | 74 | 47 | 53 | 40 | 21.7 | 17.7 | 15.6 | 9.0 | 10.7 | 8.4 |
| Mt. Pleasant | 56 | 51 | 55 | 18 | 23 | 32 | 19.0 | 18.1 | 20.4 | 6.1 | 8.2 | 11.8 |
| Muskegon | 600 | 683 | 720 | 280 | 270 | 304 | 28 0 | 30.9 | 31.7 | 13.0 | 12.2 | 13.4 |
| Negaunee | 355 | 315 | 258 | 134 | 131 | 96 | 59.1 | 52.1 | 42.4 | 22.3 | 21.7 | 15.8 |
| Niles | 52 | 57 | 73 | 98 | 55 | 90 | 11.9 | 13.3 | 17.4 | 22.5 | 12.9 | 21.4 |
| North Muskegon* | 34 | 35 | ..... | 25 | 21 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Norway | 138 | 152 | ..... | 71 | 66 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Owosso | 127 | 122 | 105 | 54 | 45 | 58 | 17.1 | 17.4 | 16.0 | 7.3 | 6.4 | 8.8 |
| Pontiac | 70 | 52 | 62 | 135 | 122 | 99 | 10.4 | 8.0 | 10.0 | 20.0 | 18.9 | 16.0 |
| Port Huron† | 395 | 421 | 361 | 233 | 212 | 178 | 22.9 | 25.0 | 22.0 | 13.5 | 12.6 | 10.9 |
| Saginaw | 1,150 | 1,080 | 1,193 | 766 | 596 | 304 | 25.3 | 23.5 | 25.8 | 16.8 | 13.0 | 6.6 |
| Sault Ste. Marie | 152 | 150 | 128 | 61 | 57 | 40 | 23.4 | 24.5 | 22.2 | 9.4 | 9.3 | 6.9 |
| St. Clair | 43 | 56 | 65 | 33 | 28 | 25 | 17.4 | 23.2 | 27.6 | 13.4 | 11.6 | 10.3 |
| St. Ignace | 45 | 2 | 34 | 10 | ..... | 7 | 18.8 | .8 | 12.6 | 4.2 | ..... | 2.6 |
| St. Joseph* | 70 | 34 | ..... | 25 | 12 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| St. Louis* | 26 | 13 | ..... | 10 | 15 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Stanton | 23 | 13 | 16 | 15 | 9 | 10 | 17.3 | 9.7 | 11.8 | 11.3 | 6.7 | 7.4 |
| West Bay City | 367 | 556 | 352 | 161 | 106 | 102 | 29.0 | 43.4 | 27.1 | 12.7 | 8.3 | 7.9 |
| Wyandotte | 111 | 140 | 125 | 51 | 55 | 61 | 27.7 | 35.8 | 32.7 | 12.7 | 14.0 | 16.0 |
| Ypsilanti | 45 | 30 | 35 | 52 | 52 | 50 | 7.4 | 4.9 | 5.7 | 8.5 | 8.5 | 8.2 |

* Rates are based upon censuses of 1890 and 1894; cities incorporated between these years have no populations stated for 1890 in Table 104, and no estimates of population or vital rates are given in these cases.

† Fort Gratiot was consolidated with Port Huron in 1893. The births and deaths returned from *Fort Gratiot for* 1890 and 1891 are stated in *italics*, and are also included in the figures given for Port Huron *for these years.*

The status of the registration of deaths under the local regulations of the cities of he State may be conveniently examined in Table 106. This table contains references o the charter provisions of each city that bear directly and indirectly upon the registra- ion of deaths, and also cites the city ordinances, as far as accessible, that have been amed for the purpose of carrying into practical effect the powers conferred upon the ities of the State by their charters for this purpose. The officer acting as city egistrar is stated, if known, or the statement is made, if definitely authorized by the ocal correspondent, that such duty is not performed. In certain cases, all of cities aving less than 4,000 inhabitants, from which no information could be obtained, the tatements are made, subject to correction as indicated by the "?", that there are no local egistrars. Statements are also given as to the requirement of burial permits and cer- ificates of death, and lastly the names and official positions of the local authorities, to hom this Department is indebted for much of the information herein contained, are iven, and the opportunity is taken to acknowledge the courteous and prompt esponses that were received from them in nearly every instance.

Examination of Table 106 shows that all of the cities in the State, with two excep- ions, Charlotte and Ypsilanti, have charter provisions directly or indirectly referring to r authorizing the registration of deaths. Such provisions are usually found in those ortions of the charters defining the general powers of the city council or relating irectly to the control of cemeteries. In some instances this power is associated with he functions of the local board of health. Below may be found a classified list of ities in which the specific language employed in the charters is stated, and which is rranged in two groups according to the source of the provisions as indicated above.

Although sixty-eight of the seventy cities of the State are enabled under specific harter provisions to enact ordinances for the registration of deaths, only twenty-three, o far as could be ascertained, have done so. These cities are as follows: Battle Creek, Bay City, Big Rapids, Benton Harbor, Detroit, Grand Haven, Grand Rapids, Hillsdale, Iolland, Iron Mountain,* Ironwood, Jackson, Kalamazoo, Lansing, Ludington, Man- stee, Marshall, Mason, Menominee, Muskegon, Saginaw, Sault Ste. Marie and West Bay City. To this list should probably be added Flint, Marquette and Port Huron, opies of whose ordinances could not be obtained, but which have local registrars nd require burial permits and certificates of death; also the city of Ann Arbor, whose rdinances were in course of compilation at the time of this inquiry, but which vidently has a system of registration in force, and possibly also the city of Eaton Rapids, whose clerk wrote that such an ordinance was on its first reading (November 0, 1893). No reports were received from twenty-two cities, mostly of small size, and rom twenty cities definite statements were received that no ordinance of this character ıad ever been enacted.

The official positions of the local registrars in the twenty-six cities in which such fficers were ascertained to exist, were as follows: Health officers or secretary of local oard of health, 10; city clerks or recorders, 8; sextons, clerks of cemetery boards or ther officers connected with the management of cemeteries, 8. In twenty-one cases it vas stated that no local record of deaths was kept, and in twenty-one cases no reports vere received, but from the size of these cities, recent incorporation, etc., it is probable hat most of these have no form of registration.

* The city clerk stated on Feb. 17, 1894, that an ordinance would in all probability be passed by the council at its next meeting.

**Table 106.**—*Status of local municipal registration of vital statistics in Michigan in 1893, with references to the provisions of city charters and ordinances relating to the control of cemeteries and the interment of the dead.*

| City. | County. | Year incorporated. | Population 1894. | Provisions relating to registration of deaths. | | Local registrar. | Burial permits. | Certificates of death. | Authority. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Charters. | Ordinances. | | | | |
| Adrian | Lenawee | 1853 | 9,511 | L. A. No. 384 of 1887, sec. 165 | None | None | None | None | Mr. John Mawdsley, city clerk. |
| Albion | Calhoun | 1885 | 4,845 | L. A. No. 296 of 1885, sec. 24, *20th* | No report | None (?) | | | |
| Alpena | Alpena | 1871 | 12,139 | L. A. No. 393 of 1891, sec. 9, *24th* | None | None | None | None | Dr. A. Wilkinson, city physician. |
| Ann Arbor | Washtenaw | 1851 | 11,071 | L. A. No. 331 of 1889, sec. 88, *20th, 23d*; sec. 114 | June 11, 1888 | Health officer | Required | Required | Mr. Wm. J. Miller, city clerk. |
| Au Sable | Iosco | 1889 | 2,661 | L. A. No. 457 of 1889, sec. 3 (General Law) | No report | None (?) | | | |
| Battle Creek | Calhoun | 1859 | 15,523 | L. A. No. 428 of 1887, *20th* | *Vital Statistics*, July, 1885 | Clerks of cemeteries | For removal | None (?) | City clerk. |
| Bay City | Bay | 1865 | 30,043 | L. A. No. 323 of 1891, sec 10, *23d, 38th* | *To Regulate Burial*, p. 270. | Health officer | Required | Required | City clerk |
| Belding | Ionia | 1893 | 3,007 | L. A. No. 313 of 1893, chap. 10, sec. 1, *31st* | None | None | None | None | Mr. W. Wilkinton, deputy city clerk. |
| Bessemer | Gogebic | 1889 | 2,529 | L. A. No. 364 of 1889, sec. 4 (General Law) | No report | None (?) | | | |
| Big Rapids | Mecosta | 1889 | 5,203 | L. A. No. 293 of 1889, sec. 8, *31st* | No. 15, New Series, *Cemeteries*, sec 11, Feb., 1888 | Supt. cemeteries | None | None | Mr. John T. Clark, city recorder. |
| Bent. Harbor | Berrien | 1891 | 5,315 | L. A. No. 347 of 1891, sec. 6 (General Law) | *Board of Health Regulations*, I, sec. iii, 4th; II, sec. 5, rule 28 | Health officer | Required | Required | City clerk. |
| Cadillac | Wexford | 1877 | 5,105 | L. A. No. 382 of 1889, sec. 10 (General Law) | None | None | None | None | Mr. A. J. Teed, supt. of cemetery. |
| Charlotte | Eaton | 1871 | 4,851 | None | None | None | None | None | Mr. James A. Greenman, city recorder. |
| Cheboygan | Cheboygan | 1889 | 6,356 | L. A. No. 333 of 1889, sec's 1, 6, 8 | No report | None (?) | | | |
| Clare | Clare | 1891 | 1,392 | L. A. No. 210 of 1891, sec. 81, *25th* | No report | None (?) | | | |
| Coldwater | Branch | 1861 | 5,285 | S. L. No. 250 of 1873, sec. 9 | None | None | None | None | Mr. H. A. Close, city clerk. |
| Corunna | Shiawassee | 1869 | 1,551 | S. L. No. 265 of 1869, chap. v, sec. 2, *19th* | None | None | None | None | Mr. Hugh Nichols, city clerk. |
| Detroit | Wayne | 1806 | 237,825 | L.A. No. 326 of 1883, chap 7, sec. 53 L. A. No. 403 of 1893, sec's 5, 7†, 8 | *Board of Health*, chap. 65, sec. 12, amend. July, 1890 | Health commissioner | Required | Required | Dr. Duncan McLeod, health c'missioner. |
| Dowagiac | Cass | 1877 | 3,532 | L. A. No. 295 of 1893, chap. iv, sec. 18, *20th, 23d*; chap. x, sec's 4, 6 | None | None | None | None | Mr. Arthur E. Rudolphi, city rec'der. |
| Eat'n Rapids | Eaton | 1881 | 2,157 | L. A. No. 287 of 1893, sec. 14, *20th, 40th* | In preparation | None | None | None | Mr. John J. Milburn, city recorder. |
| Escanaba | Delta | 1883 | 8,124 | L. A. No. 211 of 1891, chap. viii, *18th, 21st*; chap. 14, sec's 6, 8 | None | None | None | None | City clerk. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Flint | Genesee | 1855 | 10,422 | L. A. No. 321 of 1893, sec. 9, 22d | No copy | City clerk | Required | Required | Dr. Geo. W. Holland, health officer. |
| Fort Gratiot | St. Clair | 1889 | ..... | Consolidated with Port Huron in 1893 | ..... | ..... | ..... | ..... | ..... |
| Gladstone | Delta | 1889 | 2,190 | L. A. No. 321 of 1893, chap. xi, sec. 1, 37th†; chap. 14, sec's 1, 6, 8 | No report | None (?) | ..... | ..... | ..... |
| Gladwin | Gladwin | 1893 | 883 | L. A. No. 245 of 1893, sec. 3 (General Law) | No report | None (?) | ..... | ..... | ..... |
| Grand Haven | Ottawa | 1867 | 5,268 | S. L. No. 352 of 1867, sec. 15 | *Cemeteries*, p. 107, Oct., 1873 | City sexton | None | None | Mr. Wm. N. Angel, city recorder. |
| Grand Ledge | Eaton | 1893 | 2,218 | L. A. No. 322 of 1893, chap. xiv, sec's 1, 6, 8 | No report | None (?) | ..... | ..... | ..... |
| Gd. Rapids | Kent | 1850 | 79,431 | L. A. No. 270 of 1891, title iii, sec. 10, 19th†, 22d, 42d | *Cemeteries*, sec. 12, amend. Jan., 1877; sec's 1, 2, Aug. 1890. *Births*, Oct., 1891 | Health officer | Required | Required | Dr. W. A. Wilson, sec'y city b'd health. |
| Greenville | Montcalm | 1871 | 3,113 | L. A. No. 395 of 1887, sec. 58, 25th | None | None | None | None | Mr. D. S. Seaman, city clerk. |
| Harrison | Clare | 1891 | 746 | L. A. No. 319 of 1891, sec. 4 (General Law) | No report | None (?) | ..... | ..... | ..... |
| Hastings | Barry | 1871 | 3,015 | L. A. No. 351 of 1891 sec. 14, 20th, 38th | None | None | None | None | Mr. E. G. Holbrook, city recorder. |
| Hillsdale | Hillsdale | 1869 | 4,121 | S. L. No. 257 of 1869, sec. 57, 25th | *Vital Statistics*, Nov., 1883 | City clerk | Required | Required | City clerk. |
| Holland | Ottawa | 1867 | 6,307 | L. A. No. 271 of 1893, title xi, sec's 1, 6, 9 | *Board of Health*, p. 49, sec's 8, 9, Dec., 1886 | None (?) | None | None | Mr. George H. Sipp, city clerk. |
| Hudson | Lanawee | 1893 | 2,346 | L. A. No. 223 of 1893, sec. 3 (General Law) | No report | None (?) | ..... | ..... | ..... |
| Ionia | Ionia | 1873 | 5,021 | L. A. No. 410 of 1889, sec. 57, 19th, 22d | None | None | None | None | Mr. Fred Cutler, Jr., city clerk. |
| Iron Mount'n | Menominee | 1888 | 7,640 | L. A. No. 294 of 1889, sec. 1 (General Law) | *Births*, March 5, 1894‡ | None | None | None | Mr. R. Th. Miller, city clerk. |
| Ironwood | Gogebic | 1889 | 9,329 | L. A. No. 235 of 1893, chap. ix, sec. 2, 19th; chap. xii, sec's 1, 6, 8 | No. 46, *Vital Statistics*, Oct., 1893; No. 47, *Cemeteries*, sec's 12, 13, Oct. '93 | City clerk | Required | Required | Mr. John Evans, city clerk. |
| Ishpeming | Marquette | 1873 | 11,689 | L. A. No. 251 of 1891, sec. 27, 20th; chap. xv, sec's. 1, 6, 8 | None | Sec'y cemetery | In use | (?) | City clerk. |
| Jackson | Jackson | 1857 | 22,627 | L. A. No. 414 of 1889, chap. xiii, sec's. 1, 6, 8 | *Cemeteries*, p. 47, sec's 12, 14 | Health officer | Required | Required | Health officer. |
| Kalamazoo | Kalamazoo | 1883 | 21,058 | L. A. No. 353 of 1889, chap. xvii, sec. 24, 20th, 38th | No. 53, July, 1887 | Health officer | Required | Required | Mr. Channcey Strong, city clerk. |
| Lansing | Ingham | 1859 | 15,854 | L. A. No. 405 of 1893, title viii, sec's. 1, 7, 9 | *Cemeteries*, Apr., '78; *Vital Statistics*, Dec., 1879, and Jan., 1880 | City clerk | Required | Required | Mr. Wm. C. Hinman, city clerk. |
| Lapeer | Lapeer | 1869 | 2,953 | L. A. No. 301 of 1875, chap. xiii, sec's 6, 8 | No report | None (?) | ..... | ..... | ..... |
| Ludington | Mason | 1873 | 8,244 | L. A. No. 320 of 1875, sec. 9, 22d | No 72, *Cemetery*, May, 1890 | Sec'y cemetery b'd. | Required | None | Mr. Joseph Lohner, city recorder. |
| Manistee | Manistee | 1869 | 13,452 | L. A. No. 48 of 1882, chap. xv, sec's 1, 6, 8 | *Board of Health Regulation*, sec. 4, Feb., 1883 | City clerk | Required | Required | Mr. Fred Lindblom, city clerk. |
| Marine City | St. Clair | 1887 | 3,486 | L. A. No. 344 of 1889, sec. 3 (General Law) | No report | None (?) | ..... | ..... | ..... |
| Marquette | Marquette | 1871 | 9,724 | L. A. No. 323 of 1893, chap. vii, sec. 1, 19th; chap. ix, sec. 3 | No copy | City recorder | Required | Required | City recorder. |
| Marshall | Calhoun | 1859 | 4,599 | L. A. No. 405 of 1887, chap. xviii, sec. 11, 36th; chap. xix, sec's 1, 5, 7 | No. 26, *Cemeteries*, sec's 6, 8, Sept., 1890 | City recorder | Required | None | City recorder. |
| Mason | Ingham | 1875 | 1,761 | L. A. No. 272 of 1891, sec. 15 (General Law) | No's 12, 15, *Cemeteries*, Mar., 1878 and July, 1884 | City clerk | None | None | City clerk. |

**Table 106.—CONCLUDED.—*Status of local municipal registration of vital statistics in Michigan in 1893.***

| City. | County. | Year incorporated. | Population 1894. | Provisions relating to registration of deaths.* | | Local registrar. | Burial permits. | Certificates of death. | Authority. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Charters. | Ordinances. | | | | |
| Menominee | Menominee | 1883 | 12,536 | L. A. No. 281 of 1891, chap. xi, sec. 1, *57th*†; chap. xiv, sec. 16, c. 17, 20; chap. xv, sec's 1, 6, 9 | *Health Ord.*, July 24, 1893 | Health officer | Required | Required | Dr. H. L. Rosenberg, health officer. |
| Midland | Midland | 1887 | 2,485 | L. A. No. 332 of 1893, sec. 9 | No report | None (?) | | | |
| Monroe | Monroe | 1837 | 5,614 | L. A No. 1 of 1874, sec. 1 (General Law) | None | None | None | None | City clerk. |
| Mt. Clemens | Macomb | 1879 | 5,647 | L. A. No. 308 of 1879, sec. 3 (General Law) | None | None | None | None | Mr. A. E. Van Eps, city clerk. |
| Mt. Pleasant | Isabella | 1889 | 3,179 | L. A. No. 264 of 1891, chap. xiii, sec's 1, 3 | No report | None (?) | | | |
| Muskegon | Muskegon | 1869 | 20,229 | L. A. No. 304 of 1889, title vi, sec. 22, *28th*, *53d*†; title xviii, sec's 45, 46, 48, 49, 51 | *Cemeteries*, p. 40, Dec., 1881; *Cemeteries*, p. 118, Dec., 1889 | Sec'y B'd of H. | Required | Required | City clerk. |
| Negaunee | Marquette | 1873 | 5,940 | L. A No. 255 of 1891, chap. v, sec. 2, *19th* | None | None | None | None | Mr. Geo. A. McDonald, city recorder. |
| Niles | Berrien | 1859 | 4,508 | S. L. No. 353 of 1867, sec. 12 | No report | None (?) | | | |
| N. Muskegon | Muskegon | 1891 | 912 | L.A. No. 215 of 1891, chap. vi, sec. 3, *42d* | No report | None (?) | | | |
| Norway | Dickinson | 1891 | 3,588 | L. A. No. 289 of 1891, sec. 19 (General Law) | No report | None (?) | | | |
| Owosso | Shiawassee | 1859 | 8,274 | S. L. No. 215 of 1859, sec. 45, *20th*, *24th*; sec. 53 | None | None | None | None | Dr. C. A. Osborn, health officer. |
| Pontiac | Oakland | 1861 | 7,276 | S. L. No. 192 of 1861, sec. 45, *19th*, *23d*; sec. 53; L. A. No. 371 of 1885, sec's 51, 52, 190 | No report | None (?) | | | |
| Port Huron | St. Clair | 1857 | 18,147 | L. A. No. 390 of 1885, chap. xii, sec's 1, 6, 8; L. A. No. 287 of 1877, chap. 10, sec. 35† | No copy | Supt. cemeteries | Required | Required | City clerk. |
| Saginaw | Saginaw | 1857 | 44,641 | L. A. No, 455 of 1889, title iii, sec. 8, *18th*, *21st*; sec. 12; title iv, sec. 4 | *Cemeteries*, p. 200, sec. 11, Mar., 1891 | Sextons of cemeteries | None | Required | City clerk. |
| S'lt S. Marie | Chippewa | 1887 | 7,246 | L. A. No. 533 of 1887, chap. ix, sec. 1, *34th*; chap. xiii, sec's 1, 4, 8 | No. 10, *Cemeteries*, sec. 7, July, 1888 | Comm'r of cemeteries | Required | Required | Mr. John W. Shine, city attorney. |
| St. Clair | St. Clair | 1858 | 2,576 | S. L. No. 142 of 1863, sec. 47, *20th*, *23d* | No report | None (?) | | | |
| St. Ignace | Mackinac | 1883 | 2,071 | L. A. No. 223 of 1883, chap. xiv, sec's 1, 6, 8 | None | None | None | None | Mr. A. J. Gennell, city clerk. |
| St. Joseph | Berrien | 1891 | 4,519 | L. A. No. 348 of 1891, sec. 6 (General Law) | In preparation | None | None | None | Mr. Frank L. Napier city clerk. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| St. Louis | Gratiot | 1891 | 2,204 | L. A. No. 211 of 1891, sec. 9 (General Law) | No report | None (?) | | | |
| Stanton | Montcalm | 1881 | 1,303 | L. A. No. 211 of 1881, chap. xiv, sec's 1, 6, 8 | None | None | None | None | Mr. E. S. Stebbins, city clerk. |
| W. Bay City | Bay | 1877 | 12,337 | L. A. No. 387 of 1885, title viii, sec's 1, 6, 9 | *To Regulate Burial*, March, 1882 | Sec'y B'd of H. | Required | Required | Mr. M. B. Hume, deputy recorder. |
| Wyandotte | Wayne | 1867 | 4,209 | L. A. No. 339 of 1885, sec. 3 (General Law | No report | None (?) | | | |
| Ypsilanti | Washtenaw | 1858 | 6,111 | None | None | None | None | None | Mr. C. P. McKinstry, city clerk. |

* References are given under this head to the latest provisions of city charters and ordinances. For charters, the year, number and subdivision of the Local Act or Session Law are stated; for ordinances, the numbers on pages in the latest compilation are given, together with the date of passage. The text of the charter provisions is given in the following pages, and also of the ordinances as far as the latter were obtainable.

† Clauses authorizing the registration of births occur in the charters of Detroit, Gladstone, Grand Rapids, Menominee, Muskegon and Port Huron; also of marriages in those of Detroit and Muskegon.

‡ "An ordinance requiring a report and record of births in this city has already been enacted to take effect on March 5, next. Another ordinance providing for the issuance of death and burial certificates will in all probability be passed by our council at its next meeting."—*City Clerk Miller in letter of Feb. 17, 1894.*

The following twenty-two cities require burial permits: Ann Arbor, Battle Creek (for removal), Bay City, Benton Harbor, Detroit, Flint, Grand Rapids, Hillsdale, Ironwood, Ishpeming, Jackson, Kalamazoo, Lansing, Ludington, Manistee, Marquette, Marshall, Menominee, Muskegon, Port Huron, Sault Ste. Marie and West Bay City. The remaining forty-eight cities of the State have no such requirement, so far as could be ascertained, except as transit permits may be used for removal of bodies by rail, or as the supervision of funerals of decedents from small-pox, diphtheria and other dangerous communicable diseases by the local health officer may include the specification of the manner of burial.

Certificates of death are required by nineteen cities. The list is identical with that of cities requiring burial permits given above, except that Battle Creek, Ishpeming, Ludington and Marshall should be excluded, and the city of Saginaw should be added. In the latter case these certificates are sent directly by physicians, upon blanks provided by the health officer, to the sextons of cemeteries, who are required to register all interments.

Certain details of interest relating to the subject of local municipal registration will now be presented, the facts being arranged in the following order: (*a*) Charter provisions of Michigan cities bearing upon vital registration, as contained (1) in the general law for the incorporation of cities; and (2) in the charters of individual cities; (*b*) city ordinances relating to registration, with (1) forms of certificates of death in use; and (2) forms of burial permits; (*c*) practical results of local registration in Detroit, Grand Rapids and other cities, as derived from the reports of their local registrars.

## (*a*) PROVISIONS RELATING TO REGISTRATION OF VITAL STATISTICS CONTAINED IN THE CHARTERS OF MICHIGAN CITIES.

As many cities of the State are incorporated under the General Law for the Incorporation of Cities, the provisions of that act relative to the regulation of burials and registration of deaths will first be presented, and then the provisions of the special acts of incorporation of certain cities.

### GENERAL LAW FOR THE INCORPORATION OF CITIES IN MICHIGAN.

The provisions of the General Law for the Incorporation of Cities (Public Act No. 178 of 1873; Howell's Statutes, Title XVI, Chapter 80) bearing upon the registration of vital statistics may be found under three general heads: (1) General powers of city corporations; (2) Public health; (3) Cemeteries.

1. Under the general powers of city corporations the law contains no express declarations in regard to the regulation of burials and the return of bills of mortality, although many city charters passed prior to 1873 contain such provisions. General authority for this purpose may be derived from Chapter XI:

(§ 2555.) SECTION 1, *34th*. The council shall have authority to enact all ordinances, and to make all such regulations, consistent with the laws and constitution of the State, as they may deem necessary for the safety, order and good government of the city, and the general welfare of the inhabitants thereof.

2. Chapter XIV, Public Health, provides:

(§ 2572.) SECTION 1. The council of any city may enact all such ordinances as may be deemed necessary for the preservation and protection of the health of the inhabitants thereof * * *

(§ 2578.) SEC. 7. The council of any city incorporated under this act, shall also have and exercise within and for the city, all the powers and authority conferred upon boards of health by chapter forty-six of the Compiled Laws of eighteen hundred and seventy-one, so far as the same are applicable and consistent with this act, and they may enact such ordinances as may be proper for regulating the proceedings and mode of exercising such powers and authority.

(§ 2579.) SEC. 8. The council when deemed necessary may establish a board of health for the city and appoint the necessary officers thereof, and provide rules for its government, and invest it with such power and authority as may be necessary for the protection and preservation of the health of the city; and in addition thereto the board shall have and exercise all the powers and authority conferred on boards of health by the chapter of the Compiled Laws referred to in the preceding section, so far as they may be exercised consistently with the provisions of this act. And the council may prescribe penalties for the violation of any lawful order, rule, or regulation made by the board of health or any officers thereof.

Chapter XLVI, of the Compiled Laws of 1871, referred to above, provides:

SEC. 5. The said board [of health] shall also make all regulations which they may deem necessary for the interment of the dead, and respecting burying grounds, for their township.

3. Chapter XV, *Cemeteries*, has been made a part of many city charters. Its provisions under which local registration of deaths may be carried out are as follows:

(§ 2580.) SECTION 1. Any city may acquire, hold, and own such cemetery or public burial place or places, either within or without the limit of the corporation as in the opinion of the council shall be necessary for the public welfare and suitable for the convenience of the inhabitants. And may prohibit the interment of the dead within the city, or may limit such interments therein to such cemetery or burial place as the council may prescribe; and the council may cause any bodies buried within the city in violation with any rule or ordinance made in respect to such burials, to be taken up and buried elsewhere.

(§ 2582.) SEC. 3. Whenever any city shall own, purchase or otherwise acquire any cemetery or cemetery grounds, the council shall appoint three trustees who shall be freeholders and electors in the city, and who, with the city clerk, shall constitute a "board of cemetery trustees." The three trustees so appointed shall hold their office for the term of three years, except that at the first appointment one shall be appointed for one year, one for two years, one for the term of three years from the first Monday in May of the year when appointed, and annually thereafter one trustee shall be appointed. The council may remove any trustee so appointed for inattention to his duties, want of proper judgment, skill, or taste for the proper discharge of the duties required of him, or other good cause. Said board shall serve without compensation.

(§ 2583.) SEC. 4. The board of cemetery trustees shall appoint one of their number chairman, and the city clerk shall be one of the board. And the council may, by ordinance, invest the board with such powers and authority as may be necessary for the care, management, and preservation of such cemetery and grounds, the tombs and monuments therein, and the appurtenances thereof; and in addition to the duties herein mentioned, the board shall perform such other duties as the council may prescribe.

(§ 2584.) SEC. 5. Said board, subject to the directions and ordinances of the council, shall have the care and management of any such cemetery or burial place or places, * * *

(§ 2585.) SEC. 6. Said board shall appoint the necessary superintendents and employés for the cemetery; * * * enforce the ordinances of the city made for the management and care thereof; and make such regulations for the burial of the dead, * * * as may be consistent with the ordinances of the city and the laws of the State.

(§ 2586.) SEC. 7. * * * The board of trustees shall report to the council annually on the first Monday in March, and oftener when the council shall so require * * * such other matter as the council shall require to be reported,—which report shall be verified by the oath of the clerks of the board.

(§ 2587.) SEC. 8. The council of any city, owning a public burial ground or cemetery, whether within or without the city, may pass and enforce all ordinances necessary to carry into effect the provisions herein and to control or regulate such cemetery or burial place * * * and to punish violations of any lawful orders and regulations made by the board of cemetery trustees.

SPECIAL ACTS OF INCORPORATION.

The provisions contained in the special acts of incorporation may be conveniently studied by dividing the cities to which they apply into two groups: (1) Cities having authority for registration purposes conferred under the head of general powers of their common councils; and (2) cities having such power defined under those portions of their charters that relate to cemeteries. Cities having power for registration purposes conferred under both of these heads, and also those having authority under provisions relating to public health, will be noted individually.

*1. Cities having special provisions in regard to the regulation of burials under clauses in their charters relating to the general powers and duties of their common councils.*

Thirty-nine of the seventy cities in the State have in their charters, under the chapters defining the general powers and duties of the city council, special provisions relating to the regulation of burials, and in twenty cases directly authorizing the return of "bills of mortality." The list is as follows: Albion, Alpena, Ann Arbor, Battle Creek, Bay City, Belding, Big Rapids, Clare, Coldwater, Corunna, Detroit, Dowagiac, Eaton Rapids, Escanaba, Flint, Gladstone, Grand Haven, Grand Rapids, Greenville, Hastings, Hillsdale, Ionia, Ironwood, Ishpeming, Kalamazoo, Ludington, Marquette,

Marshall, Menominee, Muskegon, Negaunee, Niles, North Muskegon, Owosso, Pontiac, Port Huron, Saginaw, Sault Ste. Marie, St. Clair.

In thirteen of the cities in the above list, namely, Ann Arbor, Dowagiac, Escanaba, Gladstone, Ironwood, Ishpeming, Marshall, Menominee, Muskegon, Owosso, Pontiac, Port Huron, and Sault Ste. Marie, there are also special portions of the charters devoted to cemeteries, for the provisions of which as bearing upon the subject of the registration of deaths see below. In Detroit, in addition to the general provisions of the charter of 1883 given below, the act passed by the legislature of 1893 prescribing the powers and duties of the board of health contains a section requiring coroners to report monthly to the board of health all inquests held by them, together with certain statistical information. This act also authorizes the registration of births, and requires the clerk of Wayne county to report the number of marriages contracted each month in the city of Detroit to the board of health, thus giving a city health board full control, for the second time in the history of the State,* of that *tripos* of data—births, marriages and deaths—constituting a complete system of vital statistics.

In Grand Rapids the language of the charter giving the common council power to regulate the burial of the dead also defines the duties of the city health board in regard thereto.

Below may be found, in alphabetical order, the cities of this list with quotations from their charters showing the actual language employed by them in defining the powers and duties of their common councils with reference to the regulation of burials. Reference to the number and year of the local act containing the same, either as the original charter or as the latest amendatory provision, may be found in Table 106 preceding. Those cities having other and additional provisions under the title of "Cemeteries" are marked with an asterisk (*), while Detroit, Grand Rapids and Muskegon, in which the registration of vital statistics is expressly entrusted to the local boards of health, are marked by a dagger (†). In the case of Menominee, also, there are special provisions in regard to the board of health.

The language employed is substantially as follows:

The common council * * * shall have power, within said city, to enact, make, continue, establish, modify, amend and repeal such ordinances, by-laws and regulations as they deem desirable within said city for the following purposes:

ALBION.—To receive, hold and regulate the cemetery within the city of Albion, * * * which city is hereby required to receive, control and regulate the same, and the burial of the dead therein.

ALPENA.—To protect and regulate all cemeteries or grave-yards within the city, and all such without the limits of said city as such corporation may acquire, and to regulate the burial of the dead and the keeping of bills of mortality.

*ANN ARBOR.—To provide for obtaining, holding, regulating and managing burial grounds, within or without the city, when established for the benefit thereof; and to regulate the burial of the dead, and to compel the keeping and return of bills of mortality.
To regulate sextons and undertakers for burying the dead; * * *

BATTLE CREEK.—To regulate all graveyards in the city, and the burial of the dead.

BAY CITY.—To protect or regulate all cemeteries or graveyards within the city, and all such without the limits of said city as such corporations may acquire, and to regulate the burial of the dead and the keeping of the bills of mortality.
To prescribe rules to govern undertakers for burying the dead, * * *

BELDING.—To prescribe rules to govern sextons and undertakers for burying the dead.

BIG RAPIDS.—The city * * * may protect and regulate the use of any cemetery that it now has or may hereafter acquire, * * * and may make any rules or regulations that it may deem necessary or proper for the care thereof.

CLARE.—To regulate the burial of the dead, and to compel the keeping of bills of mortality.

COLDWATER.—* * * to regulate the cemeteries owned by the city of Coldwater; and all the by-laws, rules, regulations and ordinances heretofore made or enacted, or hereafter to be made or enacted, by said common council for the protection, improvement and management of said cemetery grounds, shall have as full force and effect in all respects as if said cemetery grounds were within the corporated limits of said city.

* The first instance occurs in the charter of Muskegon adopted in 1889.

CORUNNA.—To purchase suitable grounds for a cemetery; * * * regulate the burial of the dead; * * * and exercise a general control over all burial places in said city.

† DETROIT.—The common council * * * may also provide for the burial of strangers and poor deceased persons, and regulate the burial of the dead; and the registration of births and deaths, and to order and compel the ordering and keeping and returning of bills of mortality by physicians, sextons and others. In case of the death of any person in the city, every physician or person acting as such, who had charge of, or who was in attendance upon such person at the time of death, shall forthwith file in the office of the board of health, a certificate stating to the best of his knowledge, information and belief, the name, age, sex, nativity, occupation or profession, date and manner of death, and name of disease; and in order to carry out this provision it is authorized to enforce the same by its ordinances, and to punish any violation thereof.

The above provisions are found in the charter as constituted by the legislature of 1883. In addition thereto there are found in the act passed by the legislature of 1893, "To provide for and confirm the board of health for the city of Detroit, and prescribe its powers and duties," the following provisions relating to the registration of vital statistics:

It shall be the duties of the coroners of Wayne county, before the tenth day of each month to make a monthly report to the board of health of the inquests held by them respectively during the previous month, with a full description, so far as may be, of the age, sex, color, nationality, and cause and mode of death of the subjects of said inquests and such other particulars as the board may from time to time require, for the purpose of identifying such deceased persons; and in each case where an analysis is made for poison, a detailed report of such analysis shall be furnished and filed with said board of health in writing within ten days thereafter by the expert making such analysis.

It shall be the duty of the county clerk to report monthly to the board of health, each marriage contracted in the city of Detroit, giving the full name, age, color, occupation, birth-place and legal residence of each person married, and the date of such marriage.

It shall be the duty of each physician, accoucher, midwife, or other person in charge, who shall attend or assist at the birth of any child within the city of Detroit to forward a report to the board of health of said city within forty-eight hours after said birth, stating distinctly the date of birth, the sex and color of the child or children born, its or their physical condition, whether still-born or not, the full name, nativity and residence of the parents and the maiden name of the mother of said child or children, and any such physician, accoucheur, etc., who shall fail to report as herein required shall be punished by a fine not to exceed twenty-five dollars, or by imprisonment in the county jail not more than ninety days, or by both such fine and imprisonment, in the discretion of the court.

All public dispensaries, asylums, infirmaries, hospitals, schools, theaters, and all public institutions and places of public resort and their managers, officers, lessees and occupants shall report in writing when required by the board of health under its rules and regulations, such information as may in the judgment of the board be needed for the better discharge of its duties in said city.

* DOWAGIAC.—To provide for obtaining, holding, regulating and managing burial grounds, within or without the city, when established for the benefit thereof, regulate the burial of the dead, and to compel the keeping and return of bills of mortality.
To regulate sextons and undertakers, * * *

EATON RAPIDS.—To regulate all graveyards in said city and the burial of the dead.
* * * to purchase and control land for cemetery purposes either within or without the corporation limits of said city.

* ESCANABA.—To adopt rules, for the regulation of sextons and undertakers, in burying the dead.

FLINT.—To protect and regulate all public graveyards within the city limits, or adjacent thereto, belonging to said city, and all grounds procured, or that may be procured, for the purpose of public burial, and to compel the keeping and returning of bills of mortality.

* GLADSTONE.—To regulate the burial of the dead and registration of births and deaths; to provide hospital and cemetery grounds; to direct the returning and keeping of bills of mortality; and impose penalties on physicians, sextons and others for any default in the premises.

GRAND HAVEN.—* * * to protect and regulate all public graveyards and the burial of the dead in said city.

† GRAND RAPIDS.—To regulate the burial of the dead, and to compel reports of births and deaths to be made to the board of health, and the return of all burial permits to said board, and to provide for a complete record of births, deaths and interments to be kept in the office of the said board of health.

To prescribe rules to govern sextons and undertakers for burying the dead.
To provide for the preservation of the general health of inhabitants of said city; to make regulations to secure the same.

The last clause quoted, though bearing only remotely on the right of the common council to establish a system regulating burials as "securing the general health" of the inhabitants, is cited with the two preceding in the *Supplemental Ordinances*, p. 51, as authority for the ordinance "Relative to interment, etc." passed August 18, 1890.

GREENVILLE.—To regulate the burial of dead and to compel the keeping of bills of mortality.

HASTINGS.—To regulate all graveyards in said city and the burial of the dead.

HILLSDALE.—To regulate the burial of the dead, and to compel the keeping of bills of mortality.

IONIA.—To provide for obtaining, holding, regulating and managing burial grounds, within or without the city, when established for the benefit thereof; to regulate the burial of the dead and to compel the keeping and return of bills of mortality.
To prescribe rules to govern sextons and undertakers for burying the dead.

* IRONWOOD.—To purchase suitable grounds for a cemetery. * * * regulate the burial of the dead, * * * and exercise a general control over all burial places in said city.

* ISHPEMING.—To regulate all graveyards in said city and the burial of the dead.

KALAMAZOO.—To regulate all graveyards in said city and the burial of the dead. * * * to purchase and control lands for cemetery purposes either within or without the corporation limits of the city.

LUDINGTON.—To protect and regulate all cemeteries or graveyards within the city and all such without the limits of said city as such corporation may acquire, and to regulate the burial of the dead and the keeping of bills of mortality.

MARQUETTE.—To purchase suitable grounds for a cemetery; * * * regulate the burial of the dead; * * * and exercise a general control over all burial places in said city; * * * It shall be the duty of the controller * * * to countersign * * * all burial permits.

* MARSHALL.—* * * to purchase and control land for cemetery purposes either within or without the corporation limits of said city.

*† MENOMINEE.—To regulate the burial of the dead and registration of births and deaths; to provide hospital and cemetery grounds; to direct the returning and keeping of bills of mortality; and to impose penalties on physicians, sextons and others, for any default in the premises.

Furthermore, under Chapter XIV., Public Health, it is provided that:—

It shall be the duty of each and every practicing physician in the city of Menominee:

*a.* Whenever required by the health officer of said city to report to said health officer, at such times and in such forms as they may prescribe, the number of persons attacked with any pestilential, contagious or infectious disease attended by such physicians for the five days next preceding, and the number of persons attended by such physician who shall have died within the forty-eight hours next preceding such report, of any such pestilential, contagious or infectious disease.

*b.* To report in writing to said health officer every patient he shall have laboring under any pestilential, contagious or infectious disease, within twenty-four hours after he shall ascertain or suspect the nature of such disease.

*c.* To report in writing to the health officer when by him required, the death of any person who shall have died of any disease, within twenty-four hours thereafter, and to state in such report the specific nature and type of such disease.

The above clauses from the chapter of the charter of Menominee relating to the public health are given fully in order to show the close relation between the provisions necessary for the control of infectious diseases and those required by a prompt method of death registration. In addition to the preceding clauses under General Powers and Public Health the charter also embodies the authority for registration of deaths contained in the chapter on Cemeteries of the general law for the incorporation of cities. This ample authority is well carried out in the health ordinance, passed July 24, 1893, extracts from which are given on a following page.

*† MUSKEGON.—To prescribe rules to govern sextons and undertakers for burying the dead, * * * To regulate the burying of the dead, and to compel the keeping and return of bills of mortality; also a return of births and marriages.

The board of health constitutes the board of cemetery trustees, and has the usual powers in regard to the regulation of burials that the chapter on Cemeteries in the general law confers. In addition to this there occur the following important specific provisions under the subject of Health Department:

The said board [of health] shall make such regulations as it may deem necessary, subject to the approval of the common council, for the conduct of funerals of persons dying of any malignant, infectious or contagious disease, and for the interment of the dead; and it shall be its duty to provide regulations for the proper certifying and record of every death within the corporate limits of said city, and for the record and certificate of cause of death of any body brought within the corporate limits of said city for interment, and to grant permits for the burial of the dead within said city and the cemeteries belonging to said city.

NEGAUNEE.—To purchase suitable grounds for a cemetery, * * * to regulate the burial of the dead, * * * and exercise a general control over all burial places in said city.

NILES.— * * * to regulate all graveyards and the burial of the dead in said city.

NORTH MUSKEGON.—To regulate the burial of the dead and to compel the procuring in proper form of burial permits.

*OWOSSO.—To regulate the burial of the dead, and to compel the keeping and return of bills of mortality.

To regulate sextons and undertakers for the burying the dead.

* PONTIAC.—To regulate the burial of the dead, and to compel the keeping and return of bills of mortality.

To regulate sextons and undertakers for the burying of the dead.

* PORT HURON.—The common council * * * may also provide for the burial of deceased strangers, and poor deceased persons, and regulate the burial of the dead, and the registration of births and deaths, and to order and compel the keeping and returning of bills of mortality by physicians, sextons and others.

SAGINAW.—To regulate the burial of the dead and to compel the keeping and return of bills of mortality.
To adopt rules for the regulation of sextons and undertakers in burying the dead.
The common council shall have power to purchase and to hold a suitable lot or lots of land, within or without the corporation limits, for the purposes of city cemetery or cemeteries; and they shall make such rules and regulations regarding the same as they may deem necessary; * * * The commissioners of the city cemeteries and the controller, shall constitute a board of superintendents of the city cemeteries.

It is further provided, under Title IV. "Officers—their Rights, Powers and Duties," that:—

It shall be the duty of the controller * * * to countersign * * * all burial permits.

* SAULT STE. MARIE.—To protect and regulate all cemeteries or graveyards within the city, and all such without the limits of said city as such corporation may acquire, and to regulate the burial of the dead and the keeping of bills of mortality.

* ST. CLAIR.—To regulate the burial of the dead, and to compel the keeping and return of bills of mortality.
To regulate sextons and undertakers for the burying the dead.

*II.—Cities having provisions in regard to the regulation of burials under those portions of their charters relating to the control of cemeteries.*

Forty-two of the seventy cities in the State have special charter provisions relating to the control of cemeteries, and these, for the most part, contain ample authority for the introduction of as thorough a system of registration of deaths as may be desired. In this list, as given below, are sixteen cities, distinguished by *italics*, in which no special charters were adopted, the provisions of the general law being made applicable to all matters not otherwise provided for. The provisions of Chapter XV of the general law for the incorporation of cities (see p. 203, preceding), relating to cemeteries, therefore apply in these cases. In fact, in nearly all of the cities of this list the language of this chapter of the general law has been adopted, in some instances minor changes, as, for example, in regard to the number of cemetery trustees, being incorporated therein.

The cities of this group are as follows:—Adrian, Ann Arbor, *Au Sable*, *Bessemer*, *Benton Harbor*, *Cadillac*, Cheboygan, Dowagiac, Escanaba, Gladstone, *Gladwin*, Grand Ledge, *Harrison*, Holland, *Hudson*, *Iron Mountain*, Ironwood, Ishpeming, Jackson, Lansing, Lapeer, Manistee, *Marine City*, Marshall, *Mason*, Menominee, Midland, *Monroe*, *Mt. Clemens*, Mt. Pleasant, Muskegon, *Norway*, Owosso, Pontiac, Port Huron, Sault Ste. Marie, St. Ignace, *St. Joseph*, *St. Louis*, Stanton, West Bay City, *Wyandotte*.

Among these are thirteen cities given in the preceding list, as having other provisions in regard to the regulation of burials under sections of their charters defining the general powers of their common councils. These are the following:— Ann Arbor, Dowagiac, Escanaba, Gladstone, Ironwood, Ishpeming, Marshall, Menominee, Muskegon, Owosso, Pontiac, Port Huron, Sault Ste. Marie. Menominee and Muskegon have also special provisions relating to the duty of their health boards as to the registration of deaths.

The general law provides for the appointment by the common council of three cemetery trustees, who, with the city clerk, shall constitute a "board of cemetery trustees." They are to appoint one of their number chairman, and the city clerk is required to act as clerk of the board. Among their duties it is specified that they shall appoint a superintendent, enforce the ordinances of the city in relation thereto, "and make such regulations for the burial of the dead . . . as may be consistent with the ordinances of the city and the laws of the State."

The board of cemetery trustees is also required to report to the council annually on the first Monday in March, among other items, "such other matters as the council may require to be reported," which comprehensive clause evidently admits of full mortality returns in case the council require the same by ordinance.

The cities that have adopted other provisions, or, in some cases, a portion of the full cemetery law in their charters, are as follows:

ADRIAN.—Sections 1, 2, 8 and 9 of Chapter XV appear as sections 163-166 of the city charter as reincorporated in 1887. Section 8 declares that:
The council of said city owning a public burial ground or cemetery, whether within or without the city, may pass and enforce all ordinances necessary * * * to control or regulate such cemetery or burial place.

ANN ARBOR.—The same sections of the general cemetery law for cities are adopted as in Adrian. They constitute sections 112-116 of the act of reincorporation of 1889.

MENOMINEE.—This city has, in addition to the full cemetery law, important provisions in its charter under General Powers and Public Health. They are given above.

MIDLAND.—The city of Midland and the township of Midland have a joint cemetery board constituted as follows: The mayor and the treasurer of the city of Midland, and the supervisor and clerk of the township of Midland. It is provided that:

Said board * * * shall enforce such rules and regulations as may be established by the board for the government and control thereof, and make such regulations for the burial of the dead, * * * as may be necessary and not inconsistent with the laws of the State.

MT. PLEASANT.—Sections 1, 2 and 3 only of the general law are adopted, the latter section being altered to make the number of trustees two; their term of office two years instead of three, and, finally, that,—
The power and duties of such board shall be regulated by the common council.

MUSKEGON.—The provisions of the general law relating to cemeteries are adopted substantially except that the board of health is substituted for a special board of cemetery trustees. For important provisions under General Powers of the Common Council and Public Health see the preceding list of cities.

OWOSSO.—The common council shall have power to purchase and to hold a suitable lot or lots of land, within or without the corporation limits, for the purpose of a city cemetery or cemeteries; and they shall make such rules and regulations regarding the same as they may deem necessary.
The commissioner of the city cemetery and the auditor shall constitute a board of superintendents of the city cemetery.
The superintendents of the city cemetery or cemeteries shall have the care of the city cemetery or cemeteries, * * * subject to the ordinances and direction of the common council.
It shall be the duty of said board of superintendents to publish an annual report in relation to the matters committed to their charge, in one of the newspapers printed in the city, between the first and fifteenth days of February in each year.
PONTIAC.—The common council shall have power to purchase and to hold a suitable lot or lots of land, within or without the limits of said city, for the purpose of a city cemetery or cemeteries; and they shall make such rules and regulations regarding the same as they may deem necessary.
The common council shall make such rules and regulations for the care and government of such cemeteries so purchased, or in any way held, or within the limits of said city, as they shall deem proper.
The care, supervision, management and control of the city cemeteries of the city of Pontiac shall be and is hereby intrusted to and vested in a board, to consist of five persons who shall be citizens of Michigan, of lawful age, and resident in the city of Pontiac. The said board shall be called and known as "The Board of Control of Cemeteries of the City of Pontiac."

This board (constituted in 1885; the previous clauses date from 1863) is given full control of all cemeteries, and its elected secretary is the official custodian of all records pertaining thereto. The board is required to make a report to the common council on the first Monday in July of each year "of all their doings," which report is filed with the city clerk and a duplicate preserved by the secretary of the board.

ST. CLAIR.—The common council shall have power to purchase and to hold a suitable lot or lots of land, within or without the corporation limits, for the purpose of a city cemetery or cemeteries, and they shall make such rules and regulations regarding the same as they may deem necessary.
The superintendent of the city cemetery shall have the care of the city cemetery, * * * subject to the ordinances and direction of the common council; * * * it shall be the duty of said superintendent to publish an annual report in relation to the matters committed to his charge, in a newspaper printed in the said city, between the first and fifteenth days of February, in each year.

### (b) ORDINANCES OF MICHIGAN CITIES RELATING TO THE REGISTRATION OF VITAL STATISTICS.

Although practically all the cities of the State have specific charter provisions enabling them to register deaths, only about one-third of them, so far as could be ascertained, have carried this power into effect by the enactment of special ordinances for this purpose,—either directly, as in the "Ordinance regulating the recording and compiling of vital statistics" of the city of Lansing, or indirectly, as in the ordinance defining the duties of the boards of health of Detroit and Menominee, or those regulating cemeteries, *e. g.*, those of Saginaw and Marshall.

An exact knowledge of the nature of the local legislation relating to registration is important for several reasons: (1) In many cases requests for information as to the births or deaths of individuals in this State cannot be satisfactorily replied to by the central registration office owing to the fact that the enumeration as made by the supervisors and assessors under the present law is very defective, and consequently names of children born or of decedents may not be found upon the records preserved by the county clerks and by the Secretary of State, although they actually occurred in the State. If in any such case it be known that the birth or death occurred in a city in which immediate registration existed at the time, it is evident that another source of information is opened, and it is plainly the duty of the State registrar to supplement his imperfect records by more reliable ones as far as practicable. (2) The existence of these local systems of registration is an index of the necessity of a general registration law of greater efficiency than that at present in force. The fact that local authorities have undertaken such work, and in some cases carried it out with a considerable degree of success, indicates the general public appreciation of registration work when properly conducted. (3) Lastly, the study of these local provisions indicates with how few changes and at how slight additional cost, advantage might be taken of the registration machinery already in existence to construct an efficient modern system for the State, or, at the least, to obtain uniform monthly returns from all of the cities and larger villages that would be of great practical value.

The following ordinances and extracts of ordinances are taken from the authorized compilations supplied to this department by the officials credited in Table 105; in some cases, in which the compiled ordinances were not received, the text is that printed upon the registration blanks in use. In a few instances cities that have ordinances relating to registration are omitted as no copies could be obtained of the same, but it is believed that few of importance are unrepresented.

## BATTLE CREEK.

AN ORDINANCE relative to vital statistics and burial permits.

SECTION 1. *Be it ordained by the common council of the city of Battle Creek*, That it shall not be lawful for any one to bury any deceased person in any place in said city outside of the grounds known as "Oak Hill Cemetery," and the "Catholic Cemetery," nor without a permit in writing, first obtained from the proper officers or agents having charge of such cemetery.

SEC. 2. It shall be the duty of the officer in charge of the records of each of said cemeteries to keep a record of the burials therein, which shall show the name, residence, place of death, age, cause of death, date of burial and nativity of the person deceased; also the right of burial and number of lot where interred.

SEC. 3. It shall not be lawful for any one to remove the body of any deceased person from the city without first obtaining a written permit from the city recorder, which permit shall be granted without cost to the applicant, upon furnishing satisfactory proof of the name, age, place of residence, occupation and nativity of such deceased person, the reasons for removal, and the place to which the body is to be removed. But no such permit for removal shall be granted if there is reasonable cause to believe that such person came to his or her death through unlawful means or practices, until an inquest shall have been held on such body. And the city recorder is hereby required to keep a record of all permits for removal as aforesaid, and of the particular facts required to be shown to obtain such permit.

SEC. 4. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof, be punished by a fine of not less than five dollars and not exceeding twenty-five dollars and costs of prosecution, or by imprisonment in the county jail or city prison for a term of not less than ten days, and not exceeding sixty days; and before whom such conviction shall be had may make a further sentence, that in default of the payment of such fine and costs, within a time to be fixed by such court, the person so convicted shall be imprisoned in the county jail or city prison until such fine and costs be paid, for a term not exceeding sixty days.

SEC. 5. All prosecutions for violations of any of the provisions of this ordinance shall be commenced within three months after such violation.

Sections 6, 7 and 8 of said ordinance repealed July 6, 1885.

As amended July 6, 1885.

## BAY CITY.

AN ORDINANCE to regulate the burial of the dead, and for the keeping of bills of mortality.

SECTION 1. It shall be the duty of the nearest friend, relative or attendant on any person deceased within the limits of Bay City, to procure, as soon as practicable, from the physician attending the deceased in his last illness, or in case there were no regular attending physician, from some reputable resident physician, a certificate stating, as near as may be, the time, cause or manner of death, number of days illness and disease of the deceased; also the name and residence and place of death of the deceased. It shall thereupon be the duty of the persons obtaining said certificate to present the same to the health officer of Bay City, or in his absence or inability, to any member of the board of health, who shall thereupon issue to said person or persons a permit for the burial of the said deceased.

SEC. 2. In case of the death of any person without friends, relatives or any persons attendant, it shall be the duty of any person cognizant of the fact to report the same to the health officer, who may proceed to act on his own knowledge of the facts, and issue a permit in the regular manner to the persons who shall have in charge the funeral of said deceased.

SEC. 4. No undertaker shall conduct or manage any funeral, within the limits of Bay City, unless a proper permit for the burial of the deceased shall have been issued by the health officer; nor shall any interment take place within said limits until the permit of the health officer, for the burial of the deceased, shall have been previously furnished to the sexton or other person in charge of the cemetery in which the interment is to take place, who shall file the same with the recorder of Bay City immediately after said burial.

SEC. 5. Any person or persons violating any of the provisions or requirements of this ordinance shall, on conviction thereof, be punished by a fine of not less than twenty-five nor more than three hundred dollars, together with the costs of prosecution, and by imprisonment in the jail of Bay county for a term not exceeding six months, or by either, in the discretion of the court; and if only a fine and costs be imposed, the court may sentence the offender to imprisonment in said jail until the payment thereof, for a period not to exceed three months.

The above is taken from the form of certificate of death in use in Bay City. In the compiled ordinances, p. 270, appears the following. No date is assigned to either this or the preceding, but the sections given below are probably the ones now in force.

AN ORDINANCE regulating the burial of the dead and keeping bills of mortality.

It is hereby ordained by the common council of Bay City

SECTION 1. It shall be the duty of every undertaker or other person, before removing any corpse for burial, to make a duplicate record, legibly written in ink and signed by him, in books to be provided for that purpose by the city, showing, as nearly as can be ascertained, the name, age, sex, color, birthplace, occupation, if any, and whether married, the cause and place of death of deceased, the duration of his last illness, the place of burial and such other facts and data as may be required by the board of health. Such certificate shall also show the name of the physician attending during last illness of deceased person, if any, and the name of the person from whom such information is obtained.

SEC. 2. No interment of the body of any person shall be made in the limits of Bay City, in any other place than in the cemetery now [illegible] and set apart for the burial of the dead.

SEC. 3. [illegible] made by the undertaker who [illegible] order, the [illegible] such [illegible]

SEC. 4. [illegible] health officer [illegible] said [illegible]

SEC. 5. [illegible] shall, [illegible] hundred [illegible] for a term [illegible] be [illegible] for [illegible]

SEC. 6. [illegible]

SEC. 7. [illegible]

SEC. 8. [illegible]

SEC. 9. [illegible]

SEC. 10. [illegible]

SEC. 11. [illegible] this [illegible] shall be [illegible] from the [illegible]

## BIG RAPIDS.

AN ORDINANCE relating to cemeteries owned or controlled by the city of Big Rapids.

SECTION 1. *It is hereby ordained by the common council of the city of Big Rapids:* That the cemetery now owned by said city, and all cemeteries that may be hereafter acquired by said city, are hereby declared to be public cemeteries, and no person or persons, society or corporation, shall establish or locate any other cemetery within the limits of the city of Big Rapids.

SEC. 11. The superintendent of cemeteries * * * shall keep a record of all persons buried in any cemetery controlled by said city, giving in alphabetical order the names of deceased, age, color, sex, occupation, place of birth, and residence, if known, the disease or manner and time of death, and the number of lot, or locality in which the body was buried, which register shall be kept in the office of the city recorder.

Approved February 20, 1888.

## GRAND HAVEN.

AN ORDINANCE relative to public cemeteries.

SECTION 1. *It is hereby ordained by the common council of the city of Grand Haven:* That the cemetery known as "Lake Forest Cemetery" is declared to be the public cemetery of the City of Grand Haven, and no person or persons shall establish or locate any other burying ground within the limits of said city.

SEC. 7. The city sexton shall have charge of the cemetery under the direction of the Board of Health * * * and he shall keep a register, to be provided by the Board of Health, of all persons buried in said cemetery, giving in alphabetical order the name of the deceased, age, color, sex, occupation, place of birth and residence, the disease or manner and time of death, and the number of the lot or locality in which the body was buried, which register shall be kept in the office of the Clerk of the Board of Health.

Approved October 2, 1873.

## DETROIT.

AN ORDINANCE to amend section 12 of chapter 65, of the revised ordinances of 1890.

It is hereby ordained by the people of the city of Detroit:

SECTION 1. That Section 12 of Chapter 65 of the Revised Ordinances of 1890 be and the same is hereby amended so as to read as follows:

SEC. 12. It shall be the duty of every undertaker, or other person acting as such, having in charge the interment of any deceased person, to deposit with the city sexton, or sextons, or superintendent of the cemetery wherein said interment is to take place, the proper burial permit from the Board of Health: and it shall be the duty of the city sextons and superintendents of cemeteries in the city of Detroit to keep a register, to be provided by the city, of all persons buried in each of said cemeteries in alphabetical order the name of the deceased, the number of the lot in which the body was buried; a true copy of which register shall be certified to weekly by such sextons and superintendents and filed in the office of the Board of Health. No body or remains of any deceased person shall be buried or interred in any cemetery, burial ground or other place within the city limits, or be taken away or removed without the city limits, unless the proper permit therefor has been issued by the Board of Health. In case of the death of any person in the city, every physician or person acting as such, who had charge of or was in attendance upon such person at the time of death, shall forthwith file in the office of the Board of Health, a certificate stating all the particulars as to the name, age, sex, nativity, date and cause of death, name and character of disease to the best of his knowledge, information and belief. In case of no private physician or person acting as such being in attendance, the city physician of the proper district shall promptly make an examination and file a certificate as above required. And on receipt of certificate from the attending physician or city physician as aforesaid, or of a certificate of death from a coroner as to the cause of death, the Board of Health shall issue and is hereby authorized to issue a proper burial permit to the undertaker or person acting as such who has charge of the burial.

SEC. 2. This ordinance shall take immediate effect.

Approved July 8, 1890.

## GRAND RAPIDS.

AN ORDINANCE relative to the interment of persons within the corporate limits of the city of Grand Rapids, or in any cemetery belonging to said city.

*The common council of the city of Grand Rapids do ordain as follows:* SECTION 1. That upon the death of any person within the corporate limits of the city of Grand Rapids, or in case of any dead person brought within the limits of the city of Grand Rapids for interment in any cemetery within said limits, or in any cemetery belonging to said city, it shall be the duty of every undertaker or other person who inters such deceased person, and before the removal of such deceased person for interment, and within thirty-six hours after death of such person, or within twenty-four hours after such deceased person shall have been brought from without the limits of said city within the limits of said city, for the purpose of interment in any such cemetery, to apply to the health officer of said city to obtain a permit for interment from said health officer, and such permit shall be issued only upon the presentation of the certificate of the attending physician or of the coroner.

SEC. 2. Such permit for interment shall in every case accompany the remains of such deceased person to the place of burial.

SEC. 5. Any person or persons who shall violate any of the provisions or requirements of this ordinance, on conviction thereof, shall be punished by a fine of not less than five dollars nor more than one hundred dollars, and costs of prosecution, or by imprisonment at hard labor in the common jail of the county of Kent, or in any penitentiary, jail, work-house, house of correction or alms-house of said city, in the discretion of the court or magistrate before whom the conviction may be had, for a period of not less than ninety days; and in case such court or magistrate shall only impose a fine and costs, the offender may be sentenced to be imprisoned at hard labor in the common jail of the county of Kent, or in any penitentiary, jail, work-house, house of correction or alms-house of said city, until the payment of such fine and costs, for a period of not less than five days nor more than ninety days.

Passed August 18, 1890.

NOTE—See Title III, Sec. 10 of Charter, subdivisions 19, 22, 42, for power to pass this ordinance.

AN ORDINANCE "Relative to cemeteries and the burial of the dead in the city of Grand Rapids," as amended January 29, 1877, read as follows:

The board of superintendents of city cemeteries shall keep a register, to be provided by the city, of all persons buried in each of said cemeteries, giving, in alphabetical order, the names of the deceased, age, color, sex, occupation, place of birth and residence, the disease, or manner and time or place of death, and the number of the lot, and the name of the cemetery in which the body was buried, which register shall be kept in the office of the city clerk, and no interments of any deceased persons shall be made in any of the cemeteries within the limits of, or which are owned by said city, until a certificate from the attending physician stating the time and cause of death of the deceased, shall have been furnished to the sexton in charge of the cemetery in which the interment is to take place, which certificate shall be filed by such sexton with the city clerk on the Monday next succeeding the day of burial.

The following blank form shall be used for such certificate:

I hereby certify that I attended ..... for ..... days, previous to his death, ..... that ..... was sick ..... days and died on the ..... day of ..... 18...., of ..... disease.

I further certify, that I have received a regular medical education, and that I have graduated at the ..... Medical College, State of ....., in the year 18.....

Dated..... 18....

.....,
Attending Physician.

This blank form shall be furnished at the expense of the city, by the city clerk, to all sextons in charge of cemeteries within the limits of said city, or which are owned by said city, and to all physicians or undertakers applying for them.

It shall also be the duty of the sexton or other person having the charge of any cemetery in said city, or which is owned by said city, to make a like register in said book, and the board of superintendents or other persons aforesaid, shall on Monday of each week, record in such register, in the manner above provided, the burials which have been made since their last report.

AN ORDINANCE relating to and requiring a report of the birth of all children in the city of Grand Rapids.

The common council of the city of Grand Rapids do ordain as follows:

SECTION 1. It shall be the duty of every physician, midwife, or person acting as such physician or midwife, to report in writing to the Board of Health, all births of children occurring in their practice, or at which they attended. Such report shall be made within twenty-four hours after such birth, and shall be as follows:

Full name of father; nationality; full maiden name of mother; nationality; place of birth of child; number (if any) and street; date of birth; color and sex; if twins, sex of each; if still-born, it shall be so stated.

And it is hereby provided that in case no physician or midwife are in attendance, it shall then be the duty of the parent of said child to make such report.

SEC. 2. Any person or persons who shall violate any of the provisions or requirements of this ordinance on conviction thereof, shall be punished by a fine of not less than two dollars, nor more than fifty dollars and costs of prosecution, or by imprisonment at hard labor in the common jail of the county of Kent, or in any penitentiary, jail, work-house, house of correction, or alms-house of said city, in the discretion of the court or magistrate before whom the conviction may be had, for a period not less than five days nor more than ninety days; and in case such court or magistrate shall only impose a fine and costs, the offender may be sentenced to be imprisoned at hard labor in the common jail of the county of Kent, or in any penitentiary, jail, work-house, house of correction, or alms-house of said city, until the payment of such fine and costs, for a period of not less than five days nor more than ninety days.

Passed October, 1891.

## HILLSDALE.

AN ORDINANCE regulating the recording and compilation of vital statistics.

The common council of the city of Hillsdale ordain:

SECTION 1. That it shall be unlawful for any person to bury any deceased person in any vault, tomb, burying ground or cemetery in said city or under the control of the common council or its duly authorized agents, or to remove from or transport any person who has died within the corporate limits of said city to any place beyond its boundary for the purpose of burial or deposit, nor shall any deceased person brought within the corporate limits of the city for the purpose of burial or deposit in any vault, tomb, burying ground or cemetery within the said city, be so buried, deposited or otherwise finally disposed of, without first obtaining of the city clerk a permit as hereinafter provided.

SEC. 2. It shall be the duty of the city clerk, before making out any permit for the removal or interment of any deceased person, to require of the applicant for such a permit a certificate (a blank form of which he shall furnish free of cost) setting forth the date of death, name, age, sex, color, whether married, single, widow, widower, occupation, birthplace, how long a resident of the city and state, nativity of father and mother, place of death, cause of death—to be duly certified by the attending physician or some person made acquainted with the facts. It shall be the duty of the city clerk to record, free of cost, all such certificates.

SEC. 3. It shall be the duty of any person or persons having charge of any vault, tomb, burying ground or cemetery or place of deposit, to furnish a blank certificate (if none has been procured from the city clerk), and direct all persons applying to him or them for the purpose of burial, to file the same, duly made out as required in section 2 of this ordinance, with the city clerk, and procure his permit, and it shall be unlawful for any sexton or person to allow any deceased person to be deposited or buried within any vault, tomb, burying ground or cemetery under his charge or control, within the corporate limits of the city of Hillsdale without the permit be placed in his keeping.

SEC. 4. It shall be the duty of all coroners or persons officiating as such to file with the city clerk within thirty-six hours of the close of such investigation, a complete report of the finding in the case together with the data provided for in section 2 of this ordinance, so far as the same may be ascertained; and the city clerk shall on such evidence, duly filed in his office, grant his permit for burial.

SEC. 5. Any persons violating the provisions of this ordinance shall be deemed guilty of a misdemeanor, and on conviction thereof, may be fined not less than three dollars and costs of prosecution, and

in default of payment may be imprisoned in the county jail of Hillsdale county for a period of not more than ten days, in the discretion of the court.

SEC. 6. The provisions of this ordinance shall take effect on the first day of January, A. D. 1883, and all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Passed by the common council November 27, 1882.

## HOLLAND.

AN ORDINANCE establishing a Board of Health and defining its powers.

*The city of Holland ordains:*

SEC. 8. The board of health shall also have power, and it shall be their duty, to take such measures as they shall deem necessary and effectual to secure the inhabitants of the city from contagious, malignant and infectious diseases, and to preserve and promote the public health; and they shall have and exercise all the powers and authority conferred upon boards of health by chapter forty-six of the compiled laws of eighteen hundred and seventy-one, and the acts amendatory thereof, so far as the same shall be applicable and may be exercised in and for said city, consistent with the provisions of the city charter.

SEC. 9. The board shall make and prescribe the necessary sanitary rules and regulations for the government of the city and the promotion of the public health. Such rules shall be numbered serially and entitled, "health regulations." The style of said health regulations shall be: "It is hereby ordered by the board of health of the city of Holland." The health regulations shall be signed by the president, or person acting as president of the board and attested by the clerk, after which they shall be recorded in a book kept for that purpose and filed. Within one week after the passage of any health regulation the same shall be published in one of the newspapers published in the city. Each health regulation shall take effect twenty days from the day of its passage.

Approved December 22, 1886.

## IRONWOOD.

AN ORDINANCE regulating the recording and compilation of vital statistics.

SECTION 1. It is hereby ordered by the common council of the city of Ironwood, that it shall be unlawful for any person to bury any deceased person in any vault, tomb, burying ground or any cemetery, in said city, or under the control of the common council or its duly authorized agents, or to remove from or transport any person who has died within the corporate limits of said city to any place beyond its boundary for the purpose of burial or deposit, nor shall any deceased person brought within the corporate limits of the city for the purpose of burial or deposit in any vault, tomb, burying ground or cemetery within said city, be so buried, deposited or otherwise finally disposed of, without first obtaining of the city clerk a permit, as hereinafter provided.

SEC. 2. It shall be the duty of the city clerk, before making out any permit for the removal or interment of any deceased person, to require of the applicant for such permit a certificate (a blank form of which he shall furnish free of cost), setting forth the date of death, name, age, sex, color, whether single or married, widow or widower, occupation, birth place, how long a resident of the city and State, nativity of father and mother, place of death and cause of death, to be duly certified by the attending physician or some person made acquainted with the facts. It shall be the duty of the city clerk to record, free of cost, all such certificates in such manner as he shall be directed by the health officer or board of health of the city.

SEC. 3. It shall be the duty of the city sexton, or person having charge of any vault, tomb, burying ground, cemetery or place of deposit, to furnish a blank certificate (if none have been procured from the city clerk), and direct all persons applying to him or them for purpose of burial to file the same, duly made out as required in section two of this ordinance, with the city clerk, and procure his permit, and it shall be unlawful for the city cemetery clerk or any sexton or person to allow any deceased person to be deposited or buried within any vault, tomb, burying ground or cemetery under his charge or control, within the corporate limits of the city of Ironwood, without such permit being placed in his keeping.

SEC. 4. It shall be the duty of all coroners, or persons officiating as such, to file with the city clerk, within thirty-six hours from the close of investigation of cause of death, a complete report of the finding in the case, together with the data provided for in section two of this ordinance, so far as the same may be ascertained; and the city clerk shall on such evidence, duly filed in his office, grant his permit for burial or removal.

SEC. 5. Any person violating the provisions of this ordinance shall be deemed guilty of a misdemeanor, and on conviction thereof, may be fined not less than three dollars and costs of prosecution, and in default of payment may be imprisoned in the city penitentiary for a period not more than ten days, in the discretion of the court.

SEC. 6. The provisions of this ordinance shall take effect on the first day of December, 1893 and all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Adopted and approved October 3, 1893.

AN ORDINANCE relative to cemeteries and the burial of the dead.

SEC. 12. The city sexton, and every sexton or keeper of any public burial ground in the city of Ironwood shall, on the first Monday of every month, make and file with the city clerk a written statement of all burials made in the cemetery or burial grounds under his charge during the preceding month, setting forth particularly the name, age, sex, color, nativity, occupation, disease, and time of death, in each case, as near as the same can be ascertained, together with the particular place or lot in which the interment is made; and it shall be the duty of the city clerk to record every such statement filed with him in alphabetical order in a book of registry kept for that purpose.

SEC. 13. To the end that a proper record may be made of each burial within the grounds of said cemetery, the person applying shall give the following particulars, viz.:

Name of deceased.
Place of nativity.
Date of birth.
Date of decease.
Disease or cause of death.
Parent's name.
In whose lot interred.
Name of undertaker.

SEC. 14. Any violation or failure to comply with the provisions of this ordinance, or either of such provisions, shall be punished by a fine of not less than the cost of the prosecution, and not exceeding one hundred dollars, or, in default of payment thereof, by imprisonment in the city prison for any period not exceeding ninety days.

Adopted and approved October 3, 1893.

## JACKSON.

AN ORDINANCE relative to the city cemetery of the city of Jackson.

*Be it ordained by the common council of the city of Jackson as follows:—*

SEC. 12. It shall be the duty of the sexton to keep a register of all interments made in the cemetery, in which shall be stated the name of the deceased person, the time of his decease, his late residence, the place and date of his birth, his occupation, and the disease or complaint of which he died, and at the expiration of every quarter report the same to the common council, and cause a copy thereof to be published in the city papers, which said register is to be delivered by the sexton to his successor in office.

SEC. 14. It shall be the duty of every undertaker or other person before removing any corpse for burial or from the city either by private or public conveyance to obtain from the Board of Health a permit so to do. And before obtaining such permit he shall deposit in their office a *certificate* setting forth the name, age, sex, nativity, color, occupation, whether married or single, time of residence in the corporation, place of previous residence, duration of illness, cause and date of death and the place and date of intended interment. In case a coroner's inquest shall be held, the fact shall be stated and the coroner shall be required to certify the fact to the Board of Health. And no sexton or other person shall assist in or assent to or permit any interment of such body for which such permit has not been given.

This section was passed September 5, 1887.

## KALAMAZOO.

AN ORDINANCE relative to vital statistics and burial permits.

SECTION 1. *The city of Kalamazoo ordains:* That it shall not be lawful for any person to bury any deceased person in any vault, burying ground or cemetery in said city, or to remove from or transport the remains of any person who has died within the corporate limits of said city to any place beyond its boundary for the purpose of burial or deposit; nor shall any deceased person, brought within the corporate limits of said city for the purpose of burial or deposit in any vault, tomb, burying ground or cemetery, within said city, be so buried, deposited or finally disposed of without first obtaining of the health officer of said city, a permit as hereinafter provided.

SEC. 2. It shall be the duty of the health officer before making out such a permit for the interment or removal of any deceased person, to require of the applicant for such a permit, certificate (a blank form of which shall be furnished free of cost) setting forth name, sex age, color, cause and date of death, duration of last illness, probable cause of last illness, birth-place, nativity and names of father and mother, place of residence and proposed place of burial. All of which is to be certified to by the attending physician or some person cognizant of the facts, and to be known as a "certificate of death."

It shall be the duty of the health officer to record all such certificates of death in a book kept for that purpose at the office of the city clerk; the fee for recording each certificate shall be twenty-five cents. The health officer shall prepare a blank form of certificate of death with this ordinance printed on the back of the same.

SEC. 3. It shall be the duty of the sexton and each and every person having charge of any vault, tomb, burying ground, cemetery or place of deposit, to require of the person or persons applying to him for a place of burial the aforesaid burial permit, and file the same with the health officer within forty-eight hours after said burial; and it shall be unlawful for any person to be deposited or buried in any vault, tomb, burying ground or cemetery under his control within the corporate limits of said city, without such permit being first placed in his keeping.

SEC. 4. It shall be the duty of all coroners or persons officiating as such, to file with the health officer, within thirty-six hours from the close of any post mortem examination or inquest, a complete report of the findings in the case, together with the data, provided for in section 2 of this ordinance, so far as the same can be ascertained after diligent inquiry, and the health officer shall, upon evidence being duly filed in his office, grant his permit of burial or removal.

SEC. 5. It shall not be lawful for any person to bury, or cause to be buried, the body of any deceased person upon any lot in said city outside the limits of a public cemetery, without first obtaining the written consent of the health officer of said city, which consent shall be filed with the clerk of said city.

SEC. 6. No burial permit or permit for the removal without the city limits, shall in any case be granted in which there is probable or reasonable cause to suspect and believe that such deceased person came to his or her death through or by any unlawful means or practices until an inquest shall have been held on such body and the proper certificate shall have been filed with the health officer as hereinbefore provided and required.

SEC. 7. Any person who shall violate any of the provisions of this ordinance shall, upon conviction thereof, be punished by a fine not exceeding one hundred dollars and the cost of prosecution, or by imprisonment in the county jail for a term not less than ten days and not exceeding ninety days; and in case a fine and costs shall be imposed, the court before whom such conviction shall be had, shall make a further sentence, that, in default of the payment of such fine and costs within the time fixed by said court, the person so convicted shall be imprisoned in the county jail, until such fine shall be paid, not exceeding three months.

SEC. 8. All prosecutions for violation of any of the provisions of this ordinance shall be commenced within three months after such violation.

Adopted July 5, 1887.

## LANSING.

AN ORDINANCE relative to cemeteries and the burial of the dead.

SEC. 14. The city sexton, and every sexton or keeper of any public burial ground in the city of Lansing shall, on the first Monday of every month, make and file with the city clerk a written statement of all burials made in the cemetery or burial grounds under his charge during the preceding month, setting forth particularly, the name, age, sex, color, nativity, occupation, disease and time of death, in each

case, as near as the same can be ascertained, together with the particular place or lot in which the interment is made; and it shall be the duty of the city clerk to record every such statement filed with him in alphabetical order in a book of registry kept for that purpose.

SEC. 15. To the end that a proper record may be made of each burial within the grounds of said cemetery, the person applying shall give the following particulars, viz.:

Name of deceased.
Place of nativity.
Date of birth.
Date of decease.
Disease, or cause of death.
Parents' names.
In whose lot interred.
Name of undertaker.
Passed April 22, 1878.

AN ORDINANCE relative to the collection of vital statistics.

SECTION 1. *Be it ordained by the common council of the city of Lansing*, That it shall be the duty of every physician and clergyman having charge of or officially attending any person sick or dying within the city of Lansing, to report to the city clerk of said city, name, age, sex, date and cause of death, color, nativity, place of burial or how disposed of, within a period not exceeding six days after death, burial or removal.

SEC. 2. Any physician violating the provisions of section one of this ordinance shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined not less than three dollars and costs of prosecution, in the discretion of the court.

Passed December 11, 1879.

AN ORDINANCE regulating the recording and compilation of vital statistics.

SECTION 1. *Be it ordained by the common council of the city of Lansing*, That it shall be unlawful for any person to bury any deceased person in any vault, tomb, burying ground, or cemetery in said city or under the control of the common council, or its duly authorized agents, or to remove from or transport any person who has died within the corporate limits of said city to any place beyond its boundary for the purpose of burial or deposit, nor shall any deceased person brought within the corporate limits of the city for the purpose of burial or deposit in any vault, tomb, burying ground, or cemetery within the said city, be so buried, deposited or otherwise finally disposed of, without first obtaining of the city clerk a permit as hereinafter provided.

SEC. 2. It shall be the duty of the city clerk, before making out any permit for the removal or interment of any deceased person, to require of the applicant for such permit a certificate (a blank form of which he shall furnish free of cost), setting forth the date of death, name, age, sex, color, whether single or married, widow or widower, occupation, birthplace, how long a resident of the city and State, nativity of father and mother, place of death, cause of death, to be duly certified by the attending physician or some person made acquainted with the facts. It shall be the duty of the city clerk to record, free of cost, all such certificates in such manner as he shall be directed by the health officer or board of health of the city

SEC. 3. It shall be the duty of the city sexton, or persons having charge of any vault, tomb, burying ground, cemetery, or place of deposit, to furnish a blank certificate (if none have been procured from the city clerk), and direct all persons applying to him or them for purposes of burial to file the same, duly made out as required in section two of this ordinance, with the city clerk, and procure his permit, and it shall be unlawful for any sexton or person to allow any deceased person to be deposited or buried within any vault, tomb, burying ground, or cemetery under his charge or control, within the corporate limits of the city of Lansing, without such permit being placed in his keeping.

SEC. 4. It shall be the duty of all coroners, or persons officiating as such, to file with the city clerk, within thirty-six hours from the close of such investigation, a complete report of the finding in the case, together with the data provided for in section two of this ordinance, so far as the same may be ascertained; and the city clerk shall, on such evidence, duly filed in his office, grant his permit for burial or removal.

SEC. 5. Any person violating the provisions of this ordinance shall be deemed guilty of a misdemeanor, and on conviction thereof, may be fined not less than three dollars and costs of prosecution, and in default of payment may be imprisoned in the city penitentiary for a period not more than ten days, in the discretion of the court.

SEC. 6. The provisions of this ordinance shall take effect on the first day of April, A. D., 1880, and all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Passed January 19, 1880.

## LUDINGTON.

AN ORDINANCE relative to the city cemetery.

SEC. 9. The cemetery board and the city sexton shall each keep a register, to be furnished by the city, of all persons buried in said cemetery, giving in alphabetical order the name of deceased, age, color, sex, occupation, place of birth and residence; the disease or manner and time of death, and the number of the lot in which the body was buried, which register shall be kept in the office of the secretary of the said cemetery board.

SEC. 10. No deceased person shall hereafter be buried in said cemetery, until a permit in writing shall have been first obtained from the city recorder or the secretary of said cemetery board; and it is hereby made the duty of the city sexton to refuse entrance into said cemetery for the purpose of burial until the provisions of this section have been complied with.

SEC. 12. Any violation of or failure to comply with the provisions of this ordinance, shall be punished by a fine not exceeding one hundred dollars ($100.00) and costs, or by imprisonment not exceeding sixty days, or by both such fine, costs and imprisonment.

Approved May 18, 1880.

## MANISTEE.

REGULATIONS OF THE BOARD OF HEALTH.

SEC. 4. Whenever a death shall occur from any cause within the limits of this city it shall be the duty of the householder, or any person having the body in charge, to procure a certificate of death from the physician attending the case, stating the name of the person deceased, age, and cause of death, and, if no physician had been called, for the alderman of the ward in which the death occurred, or from the health officer of the city, which certificate shall be presented to the city clerk, whose duty it shall be, on presentation thereof, to issue a burial permit and keep a record of the same; and any person violating the above regulations shall be prosecuted according to the laws of the State.

Adopted by the Board of Health, for the city of Manistee, February 8, 1883.

## MARSHALL.

AN ORDINANCE for the regulation and protection of Oakridge cemetery and other cemeteries within said city of Marshall.

SEC. 4. The said recorder shall keep a list * * * of all orders for interments during his official term which list shall specify the date of such order, the name, age, place of residence and cause of death of the party interred, also the number of the lot and locality where such interment took place.

SEC. 6. On application being made to the recorder for the interment of any person deceased, by a relative or any friend of any party, or by a superintendent of the poor, it shall be his duty, if satisfied of the right of said interment to be made in the said cemetery, and upon a lot by the applicant to be designated, to deliver to such applicant an order to the sexton for interment.

SEC. 8. The said recorder shall make a full and accurate report to the common council two weeks preceding the close of his official term, and at any time when by the said common council requested, of all financial matters connected with the cemetery department; also of the list of deaths with the accompanying particulars as described in section 5.* On the adoption of the said report the said recorder shall cause it to be published as directed by the common council, * * *

Approved September 15, 1890.

## MASON.

AN ORDINANCE relative to the city cemetery.

SEC. 3. The board of cemetery trustees shall * * * make such regulations for the burial of the dead, the care and protection of the grounds, monuments and appurtenances of the cemetery, as may be consistent with the ordinances and charter of the city.

SEC. 8. This ordinance shall take effect on the tenth day of April, A. D. 1878.

Approved March 19, 1878.

AN ORDINANCE relative to the city cemetery.

SEC. 4. The cemetery trustees shall appoint a sexton, who shall have the exclusive right and it shall be his duty to dig all graves, open graves when properly required, report all burials, removals of bodies, and reburials to the city clerk * * *

SEC. 5. It shall be the duty of the sexton to report to the city clerk all burials, removals and disinterments of bodies, together with the name and age of deceased, cause of death and the location of the lot where buried, together with such other items as shall be required by resolution of the common council from time to time. He shall also make complaint to any justice of the peace of the city of any and all violations of this ordinance and shall qualify and act as policeman in the city cemetery and he is hereby authorized and it shall be his duty to arrest any person who shall violate any of the provisions of this ordinance, or who shall while in said cemetery violate any of the provisions of any other ordinance of the city.

SEC. 6. The city clerk shall be clerk of the board of cemetery trustees and shall keep a record of all the proceedings of said board and shall keep a record of all burials, disinterments and reburials in said cemetery, which record shall give the name, age and cause of death of the deceased, locating the lot where buried and such other items as shall be required by the common council.

SEC. 11. This ordinance shall take effect on the first day of August, 1884.

Approved July 22, 1884.

## MENOMINEE.

AN ORDINANCE providing for the protection of the health of the inhabitants of the city of Menominee. * * * and to generally regulate the sanitary affairs of said city, and prescribe rules and regulations for conducting the health department of said city.

*The city of Menominee ordains:*

SECTION II.--DUTIES OF HEALTH OFFICERS, PHYSICIANS AND HOUSEHOLDERS.

RULE 1. It shall be the duty of the health officer to make weekly reports to the Secretary of the State Board of Health of all cases of diphtheria, scarlet fever, small pox, typhoid fever, typhus fever, erysipelas, measles, septicæmia, pyæmia, puerperal fever or other contagious and infectious diseases, and he shall publish monthly in some paper of general circulation a certified copy of all deaths occurring within the city of Menominee, together with other important facts relative to mortality within said city.

SECTION III.—FUNERALS AND BURIAL PERMITS.

RULE 1. In all cases of funerals or burials held in the city of Menominee, it shall be the duty of the undertaker or person in charge of such funeral or burial, to obtain from the physician who attended the person of the deceased, or of the coroner in cases where the matter was laid before such officer, as the case

* Section 4 is probably intended.

may be, a certificate to the health officer showing the nature of the disease of which decedent died, and in case no physician or coroner attended such person, then such certificate shall be procured from such other person present during the illness as is most conversant with the nature thereof, and it shall be the duty of every physician, coroner and other person attending upon any sick person who shall come to his death, to grant such certificate upon the request of any undertaker or other person given in charge the funeral or burial of such decedent.

RULE 2. It shall be the duty of such undertaker or other person so having charge of such funeral or burial, to present the certificate called for in Rule 1 of this section, to the health officer, and thereupon the health officer shall issue to such applicant a permit for burial in the city cemetery, with such restrictions as the nature of the case may require, and no deceased person shall be buried within the limits of said city of Menominee without the certificates above mentioned having been first procured, and the keeper of the cemeteries shall refuse burial to any and every person until such certificate is presented, and it shall be the duty of the health officer to keep a record of all such certificates, showing the name of the person, the cause of the death and the date thereof.

RULE 3. Before any deceased person shall be removed from the city of Menominee, the person in charge of the corpse shall obtain permission from the health officer for such removal, and such permission will not be granted when decedent has died of any of the diseases especially named in section 2 of this ordinance, unless the body has been properly disinfected and inclosed in a hermetically sealed, or zinc or metal lined, air and fluid tight, burial case. When any corpse shall be so prepared in accordance with this section so that it may be shipped with perfect safety to the public, the health officer shall furnish to the applicant therefor, a certificate of the safe condition thereof, to be placed upon the coffin, or case thereof, in which such corpse is contained.

RULE 4. Public funerals are prohibited in all cases where the decedent has died of cholera, small pox, scarlet fever, diphtheria or typhus fever, and any and every person knowingly conducting, permitting or attending any public funeral in such cases shall be deemed guilty of a misdemeanor and subject to the penalties hereinafter provided.

SECTION VII.—BIRTHS AND DEATHS.

RULE 1. It shall be the duty of the person attending the birth of any child within the city of Menominee, or in case of inattendance by physician or midwife, then of the father or mother of such child, to report in blanks to be furnished by the health officer at his office, all the facts concerning said birth, and particularly the name of the child in full (if given name is known), the color and the sex; the name of the father and his occupation, the name of the mother previous to marriage and the date and place of the birth, with street number and place of nativity of father and mother, within six days after the birth of a child which was born alive, and it shall be the duty of the parents of such child to furnish the information herein called for to the physician, midwife or other person at such birth.

RULE 2. Any person whose duty it is to so report the birth of any child within said city, who shall fail so to do, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished as hereinafter provided.

RULE 3. It shall be the duty of the health officer to keep a record of all such births so reported, as well as of all deaths reported to him as in this ordinance provided, for use in making up the reports required by the general laws of the State, which such records shall be public records of said city, and shall be kept in such place as may be designated by the council of said city.

## MUSKEGON.

AN ORDINANCE relating to the burial of the dead in the cemeteries of the city of Muskegon; and to the removal of dead bodies for burial; and to certificates as to cause of death of persons dying in the city of Muskegon, or who may be brought to said city for burial; and to procuring burial permits; and to repeal certain ordinances.

*The common council of the city of Muskegon ordain:*

SECTION 1. There shall be no burial of the remains of any deceased person within the limits of the city of Muskegon, except in the regularly appointed cemeteries of said city, nor except by complying with the provisions of this ordinance.

SEC. 2. Upon the death of any person within the corporate limits of the city of Muskegon, it shall be the duty of the undertaker, or person who inters such deceased person, to apply to the secretary of the board of health of said city, and obtain from him a written permit to remove the dead body of such deceased person for interment whether such interment is to take place in any cemetery in said city or not.

SEC. 3. That upon the death of any person within the corporate limits of the city of Muskegon, or in case any body of any deceased person shall be brought to said city for interment, it shall be the duty of every undertaker or other person who inters such diseceased person or removes such body, and before the removal of such deceased person for interment, and within thirty-six hours after death of such person or the bringing of such body to said city, to apply to the clerk of the board of health of said city and obtain a permit to remove the body of such deceased person for interment from the secretary of said board of health; and such permit shall be issued only upon the presentation of the certificate of either the attending physician, the family physician or the coroner, or the oath of some competent person as required in section five (5) of this ordinance.

SEC. 4. Such permit for interment or removal for interment shall in every case accompany the remains of such deceased person to the place of burial, if buried in any cemetery in said city, and shall be delivered by the undertaker to the sexton of the cemetery where such deceased person shall be interred.

SEC. 5. The certificate of death or oath required in section three (3) of this ordinance shall contain the name of the deceased person, the names of father and mother, if known, his or her color, date and place of death, his or her place of birth, his or her age in years, months and days, and shall state whether the deceased was single, married, a widower or widow, and cause of death, and shall be signed by either the physician, or by one of the coroners of the county of Muskegon, or sworn to by some competent person and such certificate and burial permit may be in the following forms:

### CERTIFICATE OF DEATH.

THIS CERTIFICATE MUST BE FULLY AND ACCURATELY FILLED OUT.

Name of deceased..... : (White.) (Colored.)
Names of father and mother (if known) .....;

date of death.....; place of birth.....;
place of death, No.....Street, Muskegon, Michigan.
Age ..... years..... months..... days.
Single. Married. Widower. Widow. (Cross out the words not required.)
Cause of death.....
I certify that I attended the person above named in last illness, who died of the disease stated, on the date above named. ....., M. D.
Address.....
Place of burial.....
....., Undertaker.
Sextons will return all certificates and their report on Monday of each week, to the city clerk.

BURIAL PERMIT.

No.....

OFFICE OF BOARD OF HEALTH,
*Muskegon, Mich.*,.....189... }

Permission is hereby given.....to remove for interment to.....
the remains of....., date of birth.....,
color....., sex....., occupation.....,
place of birth....., place of death, No.....street,
date of death....., cause of death.....
Single. Married. Widower. Widow.
(Cross out words not needed.)
Name of father....., name of mother.....;
name of cemetery, if in city....., name of city, village or township, if not in city....., lot....., block.....cemetery.

Secretary of Board of Health.

No.....

*Muskegon, Mich.*,.....189...
Name of undertaker....., cemetery.....,
name of deceased....., date of birth.....,
color....., sex....., occupation.....,
place of birth....., place of death, No.....street,
date of death.....
Single. Married. Widower. Widow.
Name of father....., name of mother.....

SEC. 6. When the cause of death of any deceased person dying in said city or brought to said city for interment is a contagious, infectious or pestilential disease, the body of such deceased person shall be placed in charge of an undertaker, or other competent person, who shall thoroughly disinfect the same before it shall be placed in the coffin, casket or other receptacle for burial and the same shall not be taken to any church or other public place for any purpose before burial, nor shall said casket, coffin or receptacle be opened at any time or for any purpose prior to such burial, nor shall any person under the age of twenty years act as pall-bearer at the funeral of such deceased person.

SEC. 7. Whenever the death of any person shall be caused by small-pox, varioloid, cholera or yellow fever, the undertaker, or person acting as such, shall not allow the body of such deceased person to be taken to any building, public or private, other than that upon the premises where such death occurred, but shall privately convey the same to the place of burial in some proper cemetery, between the hours of seven o'clock in the evening and seven o'clock in the following morning, and bury the same therein without any public demonstration or public funeral services whatsoever, unless it shall be otherwise directed by the board of health. *Provided*, That if such death shall occur outside of said city from any of the diseases mentioned in this section, no such body shall be allowed to be brought into said city for any purpose whatever.

SEC. 8. Any person who shall be convicted of the violation of any of the provisions of this ordinance shall be punished by a fine of not less than ten dollars, nor more than one hundred dollars, together with the costs of prosecution, or by imprisonment in the common jail of Muskegon county, for a period of not less than ten days, nor more than ninety days, or by both such fine and imprisonment, in the discretion of the court.

SEC. 9. All ordinances and parts of ordinances, inconsistent with the provisions of this ordinance are hereby repealed.

SEC. 10. This ordinance will take effect and be in force from and after the twentieth day of January, 1890.

Approved December 18, 1889.

RULES AND REGULATIONS GOVERNING THE CEMETERIES BELONGING TO THE CITY OF MUSKEGON.

The board of public works of the city of Muskegon, Michigan, do ordain and establish the following rules and regulations governing the cemeteries belonging to the city of Muskegon:

ARTICLE 1. Previous to the burial of any body a permit must be obtained from the secretary of the board of public works of said city in accordance with the ordinance of said city, governing the burial of dead bodies, which permit shall be delivered to the sexton of the cemetery where the interment is to take place, and it shall be the duty of such sexton to keep a proper and accurate register of all such permits and burials, and make a weekly report to the secretary of the board of public works.

ARTICLE 2. Notice of interment must be given to the sexton of the cemetery where such interment is to take place, at least eight hours previous to the time of burial.

## SAGINAW.

AN ORDINANCE to provide for the care, management and control of the city cemeteries.

*Be it ordained by the common council of the city of Saginaw:*

SEC. 11. It shall be the duty of the sexton of each of the cemeteries mentioned in section one of this ordinance, to keep a register of all interments in said cemeteries, in which shall be entered the name of

the deceased, his or her place of residence at the time of the death, occupation, disease or complaint causing death, and all other matters relating thereto as are or may be hereafter required by the general laws of the State of Michigan. The sexton shall report to the common council and to the cemetery commissioners, quarterly, the contents of said register.

It shall be the duty of any physician who has had charge of, or been in attendance once upon any patient who has died, while under such charge or attendance, to forthwith furnish the sexton a certificate, upon blanks to be furnished by the health officer of the city, in which certificate shall be stated the name of the deceased, date of death, place of birth, age at last birthday, occupation, if any, and disease or cause of death.

Passed March 2, 1891.

## SAULT STE. MARIE.

ORDINANCE relative to the cemeteries of Sault Ste. Marie, and prescribing the duty of the commissioner of cemeteries.

*The city of Sault Ste. Marie ordains:*

SEC. 7. It shall be the duty of every undertaker, or other person acting as such, having the charge of the interment of any deceased person in said cemetery, to deposit with the commissioner of cemeteries a certificate from the attending physician of the deceased, or in case no physician was in attendance, from the city physician called by such undertaker to make examination into the case, stating all the particulars as to the name, age, sex, nativity, social condition, manner of death or character of the disease of the deceased person, which said certificate in blank shall be furnished to any undertaker or other person applying therefor to the recorder; and it shall be the duty of said commissioner to keep a register, to be provided by the city, of all persons buried in said cemetery, giving in alphabetical order the name of the deceased, the number of the lot, in which the body was buried, together with a transcript of the certificate furnished in the case. Said register shall be kept in the office of the recorder.

SEC. 9. Any violation of or failure to comply with the provisions of this ordinance shall be punished with a fine not to exceed one hundred dollars and costs, or in default of payment thereof within a specified time by imprisonment for a period of not to exceed ninety days, or by both fine and imprisonment, in the discretion of the court.

This ordinance is ordered to take effect on and after the 25th day of July, A. D. 1888.

Approved July 3, 1888.

## WEST BAY CITY.

AN ORDINANCE relative to regulating the burial of the dead, and for the safe keeping of the records of the mortality thereof.

SECTION 1. *Be it ordained by the city of West Bay City:* That it is hereby made the duty of friends, relatives, or attendants of any person deceased, desiring to bury within the limits of West Bay City to procure from the attending physician before burial of said deceased person or in case there was no regular attending physician, then from some person acquainted with the facts, a certificate stating as near as may be the time, cause or manner of death, number of days of illness and disease of the deceased, also the name, residence, and place of death of deceased. It shall thereupon be the duty of the person or persons obtaining said certificate to present the same to the secretary of the board of health, or in his absence from his office in said city, then to some member of the board of health, who shall thereupon and without delay issue to said person or persons a permit which shall be countersigned by the recorder or one of the cemetery trustees for the burial of the said deceased. The said certificate when given by any regular physician shall be in the following form.

No. .....

CERTIFICATE OF DEATH.

1. Full name of deceased.....
2. Sex .....
3. Color .....
4. Single, married, widow or widower.....
5. Age .... years, .... .. months, days.
6. Place of death, No. ..... ..... Street, ..... Ward, City of.....,State of .....
7. Cause of death..... .....
8. Date of death.... ...day of ....., 18 ..., about..... o'clock ....M.
9. Birthplace (State or country).....
10. How long a resident of this city?
11. How long a resident of this State?
12. Occupation of deceased.....
13. Father's birthplace.....
14. Mother's birthplace..... .....
15. Proposed place of burial ..... .. ... .. .....
16. I Hereby Certify, That the above facts are true to the best of my knowledge and belief.

..... .. ... .. .....
Person applying for permit.

17. I Hereby Certify, That the facts relative to the cause of death of..... ..... .....are correct, according to the best of my knowledge and belief.

..... .... .... .....
Attending physician, coroner or other person acquainted with the facts.

Said blanks shall be furnished by the secretary at the expense of the city, to all regular practicing physicians applying for the same.

SEC. 2. In case of the death of any person, who is a stranger without friends or relatives, it shall be the duty of any resident of the city cognizant thereof, to report the same to the secretary of the board of health, or to any member of said board, who shall proceed to act on his own knowledge of the facts and issue a permit to the person or persons who shall have in charge the funeral of said deceased person.

SEC. 4. No undertaker or other person shall conduct or manage any funeral within the limits of West Bay City unless a proper permit for the burial of the deceased person shall have been issued by the secretary of the board of health or one of the members of said board; nor shall any interment take place

within the limits of this city until the permit of such officer for the burial of the deceased person shall have been previously furnished to the sexton or other person in charge of the cemetery in which the interment is to take place, who shall file such permit with the secretary of the board of health of said West Bay City, immediately after said burial.

SEC. 5. All certificates issued as required by this ordinance shall be filed with the secretary of the board of health of said West Bay City; and it shall be the duty of said secretary to keep on file all papers so furnished him by said chairman or any other member of said board of health.

SEC. 6. It shall be the duty of the secretary of the board of health to keep in his office a register to be provided by the city, of all persons buried in said city, giving in alphabetical order, the name of the deceased, age, color, sex, occupation, place of birth, and so far as known residence, the disease or manner, and time and place of death, and the cemetery, and number of lot set apart for the burial of such deceased person.

SEC. 7. No interment of the body of any person shall be made within the limits of West Bay City in any other place than in some existing cemetery or place regularly set apart for the burial of the dead.

SEC. 8. Any person or persons violating any of the provisions or requirements of this ordinance shall, on conviction thereof before any justice of the peace of the city of West Bay City be punished by a fine of not less than twenty-five dollars, nor more than one hundred dollars together with the costs of prosecution or by imprisonment in the city penitentiary of the city of West Bay City or in the common jail of the county of Bay not less than thirty days and not exceeding ninety days from the time of his or her conviction or by both such fine and imprisonment in the discretion of the court trying the offender.

Approved March 8, 1882.

### (1) *Forms of Certificates of Death in use in certain Cities of Michigan.*

The form of the certificate of death employed in a system of registration is of great practical importance. Upon its general plan and inclusion of items, its wording, and even upon its typographical arrangement may largely depend the success of a system in obtaining full and accurate returns. It is needless to say that no method of registration that dispenses entirely with the certificate of death, as the present system of State registration does, has any standing in modern vital statistics.

Specimens of the blanks employed for this purpose under local ordinances were received from eighteen cities of the State, as follows: Ann Arbor, Bay City, Benton Harbor, Detroit, Flint, Grand Rapids, Hillsdale, Ironwood, Kalamazoo, Lansing, Manistee, Marquette, Menominee, Muskegon, Port Huron, Saginaw, Sault Ste Marie and West Bay City. Some representative forms are herewith presented:

*Form of certificate of death used in Benton Harbor.*

PHYSICIAN'S REPORT OF A DEATH.

Immediately after the death of any person under his professional care, the attending physician is requested to fill out one of these blanks and send it to the Health Officer, that there may be no delay in granting a Burial Permit. See Rule 28, Board of Health Rules and Regulations.

Name.....

Residence.....

Age.....Date of Death.....189....

Cause of Death.....

Signed.....M. D.

Benton Harbor, Mich.....189 ...

This represents the certificate of death reduced to its lowest terms. Were the item of sex stated, the facts given would constitute the most essential items concerning a decedent and answer the purpose of a local record in which the chief object is identification. Of course such a record is too meagre for many statistical purposes, for which, indeed, it was probably not intended.

*Form of certificate of death used in Menominee.*

PHYSICIAN'S CERTIFICATE.

MENOMINEE, MICH.,. .....189....

HEREBY CERTIFY THAT.....of No.....

.....Street, died on.....189...., of.....

Born.....; sex.....; age, years.....

Name of father .....; occupation.....

Name of mother.....

Was post-mortem held?.....

.....M. D.,

*Attending Physician.*

As an identification certificate this must be considered an improvement over the preceding, as it contains the important items of sex, occupation, and, valuable for deaths of children especially, the names of father and mother of decedent. The space allotted to cause of death is insufficient, but place is given for statement as to *post-mortem*.

*Form of certificate of death used in Detroit.*

Physicians are requested by the Board of Health to fill out this certificate accurately, *and deliver to the Health Officer*, within twenty-four hours after death of the person to whom it relates. MAXIMUM PENALTY for neglect of so doing, $500.

CERTIFICATE OF DEATH.

No.....

FOR THE MONTH OF..... IN THE CITY OF DETROIT, MICH.

1. Name..... Color.....
2. Sex..... Married..... Single.....
3. Age.....
4. Name of father of deceased ..... Nativity.....
5. Name of mother of deceased ..... Nativity.....
6. Occupation of deceased.....
7. Place of birth of deceased (Town, Country, State).....
8. Name of wife of deceased.....
9. Name of husband of deceased .....
10. Date of birth..... Date of death.....
11. Cause of death .....
12. Duration of disease.....
13. Place of death ..... Street..... Ward
14. Place of burial .....
15. Undertaker.....

Residence of Physician.....

Detroit.....189.... .....M. D.,

*Attending Physician.*

Burial permit No..... Date.....189.... To be buried.....189....

☞ No burial permits will be issued upon this certificate unless correctly filled out in ink, signed and returned by the attending physician or coroner.

The form of return in use in Detroit is very complete, and its arrangement is excellent for practical use. It should, perhaps, include the contributory cause of death as well as the principal cause, and state whether determined by *post-mortem* or not. It differs from the blanks used in some places, e. g., Grand Rapids and Lansing, in that the personal details as well as the statement of cause of death are given upon the physician's authority. The physician should only be called upon to certify to statements directly relating to the cause of death or the duration of the fatal illness, and all other facts should be certified to by relatives or friends who may be cognizant of them.

*Form of certificate of death used in Grand Rapids.*

No.....

CERTIFICATE OF DEATH.

Received....., .....189.... GRAND RAPIDS, MICH. .....189....

Name of deceased.....

Date of Birth of Deceased.....

Place of Birth..... Place of Death, No.....Street.

Color..... Sex..... Occupation .....

Date of Death .....Single. Married, Widower, Widow.
(Cross out words not needed.)

Name of Father of Deceased .....

Name of Mother of Deceased.....

CAUSE OF DEATH.

Chief and determining .....

Consecutive and Contributory.....Duration of Disease.....

I CERTIFY That I attended the person above named in.....last illness, and that.....died of the disease stated, on the date above named.

I further certify that I am registered according to the State registration law.

.....
*Attending Physician.*

Address .....

Place of Burial .....

Signature of Undertaker .....

This form is perhaps not sufficiently full in some respects, but provides for the statement of the determining and contributory causes of death, and requires the statement of the physician as to this fact alone. Apparently no one certifies to the other facts registered.

*Form of certificate of death used in Lansing.*

No.....

No permit for burial or removal from the city of Lansing can be obtained without a proper Certificate.

## CERTIFICATE OF DEATH.

1. Full name of deceased (write legibly and spell correctly. If an infant not named be particular to give parents' names.) .....
2. Sex.....
3. Color.....
4. Single, married, widow or widower (cross out words not required in this line.)
5. Age, .....years.....months.....days.
6. Place of death (if an institution, please state the name). No.....
.....Street.....Ward. City of..... , State of.....
7. Cause of death.....
8. Date of death .....day of.....18....., about.....o'clock....M.
9. Birthplace (State or Country) .....
10. Date of birth.....
11. How long a resident of this city?.....
12. How long a resident of this State? .....
13. Occupation of deceased.....
14. Father's name.....
15. Mother's name .....
16. Father's birthplace .....
17. Mother's birthplace.....
18. Proposed place of burial .....
19. I HEREBY CERTIFY, That the above facts are true to the best of my knowledge and belief.

.....
Person applying for permit.

20. I HEREBY CERTIFY, That the facts relative to the cause of death of .....
.....are correct, according to the best of my knowledge and belief.

.....
Attending Physician,* Coroner, or other person acquainted with the facts.

* Cross out the two titles not used,
The blanks and burial permit required by the ordinance printed on the back of this sheet will be furnished by the City Clerk free of charge.

The above form is excellent in respect to the items included, and is arranged in such a way that the person applying for the burial permit certifies to all of the statistical information required except the cause of death. Space should be given for statement of the contributory cause of death, if any, and it should be more definitely implied that the certificate of cause of death is to be given by a medical practitioner only and not by any "other person acquainted with the facts" except under very exceptional circumstances.

(2) *Forms of Burial Permits in use in certain Cities in Michigan.*

Samples of the blanks in use for this purpose were received from nearly the same list of cities that supplied certificates of death. In Saginaw, apparently, no burial permit is required, the certificates of death being made returnable directly to the sextons of cemeteries who act as registrars. In some places the burial permit seems to serve as a certificate of death also, no special form of the latter being submitted.

Although the burial permit is an essential link in the chain of efficient registration, and no interment or removal for burial should be permitted, under stringent penalties, without such authorization from the proper officer of each township, village or city, its statistical interest is less than that of the certificate of death. In its simplest form it is simply a statement that the law requiring a certificate of death or the filing of certain statistical information has been complied with, and directing the sexton to allow the interment. In many cases more or less of the information given in the certificate of death is copied in the burial permit by the officer issuing the same, and this information serves as the basis of a report by the sexton or superintendent of the cemetery. It is not deemed necessary to reproduce any of the blanks employed for this purpose.

## (c) PRACTICAL RESULTS OF LOCAL MUNICIPAL REGISTRATION OF VITAL STATISTICS IN MICHIGAN.

The material obtainable in regard to this subject is very meagre, and is practically confined to the statements given in the printed monthly bulletins of Detroit and Grand Rapids (and the annual reports of the former city) issued by the city boards of health. Files of these bulletins, very nearly complete, were preserved in the office of the Secretary of the State Board of Health, and were kindly placed at the disposal of this Department for the present investigation. With these were also newspaper reports of mortality in the city of Niles for the years 1890-91, manuscript returns from the health officer of Kalamazoo to the Secretary of the State Board of Health for 1890 and the first three months of 1891, and manuscript reports of the sexton of Mt. Hope cemetery, Lansing, of interments for the three years 1890-92. These latter reports were supplemented by the record of burial permits filed in the city clerk's office of Lansing.

Efforts were made, by correspondence with the local registrars of cities having systems of registration, to obtain at least the gross results of registration for the three years, 1890-92, and also to learn the number of deaths recorded from a few of the most important diseases. No information could be obtained, however, owing probably to the fact that no systematic reports were made, nor was it even possible to complete the returns for the city of Kalamazoo. It may be regarded as very fortunate that complete returns can be presented for Detroit and Grand Rapids for the three years studied, and that these cities are so situated as to be fairly representative of the average conditions affecting mortality in the State at large.

### ANNUAL DEATH-RATES FROM ALL CAUSES.

The following table shows the numbers of deaths registered for each of the years 1890-92 in all of the cities from which any information was obtainable. Manistee and Muskegon are also included, the numbers given being for the census year 1889-90, as stated in the Compendium of the Eleventh Census, Part II., p. 18, these two cities, with Detroit, being the only cities of Michigan included among the "registration cities."

*Deaths and death-rates* registered *in certain cities of Michigan, 1890-92. (Still-births included.)*

| Cities. | Deaths registered. | | | Death-rates per 1,000. | | |
|---|---|---|---|---|---|---|
| | 1892. | 1891. | 1890. | 1892. | 1891. | 1890. |
| Detroit | 5,417 | 4,681 | 4,303 | 24.4 | 21.9 | 20.9 |
| Grand Rapids | 1,352 | 1,255 | 1,091 | 19.4 | 20.2 | 18.1 |
| Kalamazoo | ..... | ..... | 314 | ..... | ..... | 17.6 |
| Manistee | ..... | ..... | 204 | ..... | ..... | 15.9 |
| Muskegon | ..... | ..... | 480 | ..... | ..... | 21.1 |
| Niles | ..... | 78 | 90 | ..... | 18.2 | 21.4 |

These rates may be compared with the rates as obtained from the State enumeration for the corresponding years in Table 105, and will be found decidedly higher as a rule. The two exceptions are Detroit in 1890, due probably to the large number of fraudulent entries for that year, and Niles in 1890. In the latter case, both records agree exactly, and it is probable that the register was used by the assessor in making his returns. The rates given for Detroit and Grand Rapids in the above statement are higher than those used on page 4 since still-births and premature births are here included.

The general conclusion to be drawn from these rates of Michigan cities is that the death-rate in Michigan is probably much greater than the State registration returns have ever shown, and that this State, while having a favorable degree of mortality, has not such an excessively low death-rate as to practically exclude it from direct comparison with the Eastern States in which more exact registration exists. Instead of a mortality of 10 per 1,000 or less, as indicated by the returns, the actual death-rate is probably from 16.5 to 17.5 per 1,000 for the entire State, and the death-rates of Michigan cities are probably still higher, perhaps 18.5 to 20.5 per 1,000 on the average.

### DEATH-RATES FROM IMPORTANT DISEASES.

Death-rates from individual diseases as enumerated under the State system are subject to the same percentage of omissions, on the average, as total deaths, but from the different seasonal distribution of different diseases, the amounts of omission vary somewhat. That all of these rates are much below the truth is well shown in the following comparison of deaths as registered immediately upon their occurrence in Detroit and Grand Rapids and those enumerated for the State as a whole. The statement made on a preceding page (p. 160) that the death-rates per 100,000 based upon the returns would require to be increased by at least 60 per cent for comparison with rates obtained under an accurate system of registration, is seen to be well within the truth. The rates given for Detroit and Grand Rapids are probably somewhat higher than the death-rates for the State, and allowance must be made for local epidemics, as for example, the unusual prevalence of scarlet fever in Detroit in 1892, but taken as a whole the death-rates for individual diseases given in the following comparison are more nearly correct than any statements previously made in these reports. They may be compared directly with the death-rates for the corresponding diseases in other States and countries given in Tables 77 to 81 (pp. 209-213).

**Table 107.**—*Deaths from important diseases and groups of diseases registered* by the city board of health of Detroit for the years 1890–92, inclusive, by months.*

| Causes of death. | Year 1892. | Months, 1892. | | | | | | | | | | | | Year 1891. | Months, 1891. | | | | | | | | | | | | Year 1890. | Months, 1890. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| TOTAL DEATHS: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Still-births included* | 5417 | 532 | 374 | 436 | 493 | 458 | 423 | 686 | 501 | 433 | 394 | 359 | 333 | 4681 | 361 | 298 | 414 | 405 | 393 | 361 | 438 | 502 | 386 | 379 | 322 | 427 | 4303 | 437 | 280 | 370 | 334 | 330 | 317 | 477 | 385 | 384 | 341 | 324 | 324 |
| *Still-births excluded* | 4938 | 496 | 337 | 399 | 458 | 428 | 392 | 610 | 458 | 392 | 356 | 318 | 294 | 4250 | 326 | 262 | 369 | 374 | 347 | 315 | 414 | 461 | 360 | 342 | 286 | 394 | 3916 | 407 | 254 | 330 | 306 | 295 | 282 | 447 | 364 | 349 | 313 | 254 | 285 |
| SPECIFIED DISEASES | 4703 | 483 | 332 | 390 | 443 | 413 | 366 | 577 | 417 | 375 | 323 | 308 | 281 | 4095 | 316 | 255 | 358 | 361 | 336 | 305 | 402 | 437 | 346 | 330 | 275 | 374 | 3782 | 398 | 251 | 319 | 294 | 283 | 271 | 429 | 346 | 342 | 305 | 268 | 276 |
| *Dangerous communicable diseases* | *1483* | *125* | *88* | *155* | *170* | *131* | *145* | *142* | *107* | *109* | *111* | *102* | *98* | *1133* | *96* | *74* | *118* | *82* | *92* | *71* | *71* | *95* | *106* | *117* | *78* | *133* | *1147* | *103* | *71* | *101* | *100* | *85* | *76* | *92* | *75* | *109* | *112* | *116* | *107* |
| Consumption | 381 | 40 | 24 | 43 | 37 | 41 | 22 | 42 | 23 | 32 | 31 | 26 | 20 | 364 | 32 | 26 | 38 | 29 | 33 | 28 | 29 | 38 | 24 | 34 | 18 | 35 | 332 | 38 | 14 | 32 | 34 | 31 | 29 | 22 | 26 | 25 | 24 | 32 | 25 |
| Other tubercular diseases | 189 | 10 | 11 | 16 | 13 | 11 | 22 | 24 | 19 | 21 | 15 | 14 | 13 | 181 | 7 | 8 | 19 | 19 | 8 | 19 | 16 | 13 | 26 | 22 | 7 | 17 | 166 | 19 | 17 | 17 | 11 | 13 | 12 | 24 | 10 | 18 | 12 | 6 | 7 |
| Croup | 112 | 9 | 7 | 10 | 14 | 12 | 7 | 5 | 6 | 8 | 10 | 9 | 15 | 90 | 14 | 12 | 13 | 5 | 5 | 6 | 1 | 5 | 7 | 6 | 8 | 8 | 140 | 8 | 10 | 9 | 12 | 8 | 4 | 6 | 11 | 14 | 24 | 20 | 14 |
| Diphtheria | 342 | 34 | 20 | 32 | 56 | 38 | 31 | 24 | 15 | 11 | 27 | 30 | 24 | 272 | 27 | 15 | 26 | 19 | 26 | 9 | 15 | 14 | 20 | 28 | 16 | 47 | 362 | 24 | 17 | 26 | 29 | 19 | 10 | 29 | 22 | 45 | 45 | 48 | 48 |
| Erysipelas | 9 | 1 | 1 | 1 | 1 | --- | --- | --- | --- | --- | 1 | --- | 4 | 17 | 3 | 2 | 2 | 1 | 3 | 1 | 3 | 1 | --- | --- | 1 | --- | 9 | 1 | --- | 1 | 1 | --- | 1 | 1 | --- | 1 | 1 | 1 | 1 |
| Fever, Puerperal | 28 | 5 | 1 | 6 | 4 | --- | 3 | 1 | 1 | 2 | 1 | 2 | 2 | 29 | 2 | 5 | 2 | 2 | 4 | 2 | --- | 5 | 3 | 2 | --- | 2 | 23 | 2 | 2 | 3 | 5 | 2 | 2 | 1 | --- | 1 | 1 | 2 | 2 |
| Fever, Scarlet | 206 | 19 | 20 | 35 | 35 | 20 | 27 | 18 | 9 | 8 | 3 | 3 | 9 | 70 | 3 | 1 | 1 | 2 | 3 | 1 | 4 | 7 | 5 | 10 | 13 | 20 | 39 | 7 | 3 | 5 | 6 | 4 | 5 | 4 | 1 | --- | --- | 2 | 2 |
| Fever, Typhoid | 194 | 6 | 4 | 11 | 10 | 4 | 33 | 26 | 30 | 26 | 19 | 16 | 9 | 63 | 2 | 2 | --- | 1 | 2 | 3 | 1 | 3 | †18 | 15 | 13 | 3 | 28 | 1 | 1 | 3 | 1 | --- | 2 | 3 | 4 | 5 | 3 | 2 | 3 |
| Measles | 6 | --- | --- | --- | --- | 3 | --- | --- | 1 | --- | 1 | --- | 1 | 31 | 5 | --- | 6 | 3 | 5 | 1 | 2 | 5 | 2 | --- | 1 | 1 | 40 | 3 | 4 | 5 | 1 | 7 | 9 | 2 | --- | 1 | 1 | 2 | 5 |
| Small-pox | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Chicken-pox | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- |
| Whooping-cough | 16 | 1 | --- | 1 | --- | 2 | --- | 2 | 3 | 1 | 3 | 2 | 1 | 18 | 1 | 3 | 1 | 1 | 3 | 1 | --- | 4 | 1 | --- | 1 | --- | 7 | --- | 3 | --- | --- | 1 | 1 | --- | --- | --- | 1 | 1 | --- |
| Bladder diseases | 11 | --- | 2 | 1 | 1 | --- | 2 | 1 | 2 | 1 | --- | 1 | --- | 8 | --- | 1 | --- | 1 | 1 | 1 | 1 | --- | 1 | 2 | --- | --- | 8 | 1 | 1 | 1 | 1 | --- | --- | 1 | --- | --- | 1 | --- | 2 |
| *Bowel diseases* | *692* | *12* | *30* | *19* | *25* | *23* | *27* | *219* | *148* | *100* | *36* | *28* | *25* | *650* | *21* | *14* | *19* | *16* | *14* | *63* | *172* | *154* | *91* | *46* | *18* | *22* | *484* | *15* | *9* | *17* | *16* | *14* | *33* | *161* | *105* | *63* | *26* | *14* | *11* |
| Bowels, Inflammation of | 110 | 3 | 9 | 8 | 12 | 4 | 5 | 20 | 13 | 13 | 3 | 14 | 6 | 105 | 3 | 2 | 6 | 5 | 4 | 10 | 23 | 15 | 9 | 7 | 7 | 11 | 88 | 2 | 5 | 4 | 5 | 3 | 6 | 23 | 10 | 8 | 8 | 6 | 3 |
| Diarrhea | [illegible] | | | | | | | | | | | | | [illegible] | | | | | | | | | | | | | [illegible] | | | | | | | | | | | | |
| Cholera Infantum | 426 | 1 | 2 | --- | 2 | 5 | 13 | 173 | 125 | 69 | 26 | 6 | 4 | 364 | 1 | 1 | 3 | --- | 3 | 39 | 117 | 111 | 63 | 21 | 3 | 2 | 247 | --- | --- | 1 | 1 | 3 | 15 | 112 | 64 | 42 | [illegible] | [illegible] | [illegible] |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dysentery | 15 | ... | ... | 1 | 1 | ... | 1 | 6 | 2 | 3 | ... | 1 | 1 |
| Peritonitis | 63 | 7 | 13 | 5 | 6 | 7 | 2 | 5 | ... | 3 | ... | 5 | 10 |
| Bowel disease, etc. | 57 | 1 | 3 | 1 | 4 | 4 | 6 | 13 | 8 | 9 | 2 | 2 | 4 |
| *Brain diseases* | *366* | *37* | *21* | *35* | *26* | *36* | *26* | *40* | *26* | *37* | *35* | *25* | *22* |
| Apoplexy | 70 | 8 | 2 | 2 | 2 | 7 | 4 | 7 | 7 | 6 | 15 | 6 | 4 |
| Brain, Inflammation of | 33 | 3 | 4 | 2 | 3 | 5 | ... | 7 | 3 | 3 | 3 | ... | 1 |
| Epilepsy | 12 | ... | 2 | ... | 1 | 1 | 4 | 2 | ... | ... | ... | 1 | 1 |
| Meningitis | 137 | 17 | 8 | 18 | 13 | 9 | 14 | 20 | 8 | 12 | 9 | 6 | 3 |
| Paralysis | 100 | 10 | 5 | 13 | 7 | 18 | 3 | 4 | 4 | 12 | 7 | 11 | 11 |
| Brain disease, etc. | 14 | ... | ... | ... | ... | 1 | 1 | ... | 4 | 4 | 1 | 1 | 2 |
| Cancer | 99 | 10 | 6 | 7 | 13 | 10 | 8 | 10 | 4 | 10 | 7 | 9 | 5 |
| Tumor | 16 | ... | 1 | ... | 2 | 1 | ... | 1 | 3 | 2 | 3 | 3 | ... |
| Childbirth | 33 | 4 | 1 | 2 | 5 | 1 | 3 | 4 | 3 | ... | 4 | 4 | 1 |
| Convulsions | 311 | 42 | 30 | 31 | 30 | 33 | 31 | 26 | 24 | 18 | 16 | 16 | 19 |
| Diabetes | 8 | 3 | ... | 1 | ... | 1 | 1 | ... | 1 | ... | ... | 1 | ... |
| Dropsy | 61 | 7 | 5 | 3 | 3 | 6 | 1 | 9 | 9 | 2 | 6 | 4 | 6 |
| Fever | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... |
| Fever, Malarial | 45 | 1 | 1 | 3 | 5 | 6 | 8 | 6 | 3 | 4 | 3 | 3 | 2 |
| Heart diseases | 195 | 26 | 17 | 14 | 24 | 17 | 18 | 20 | 24 | 12 | 2 | 7 | 14 |
| Influenza | 56 | 34 | 12 | 9 | 1 | ... | ... | ... | ... | ... | ... | ... | ... |
| Kidney diseases | 98 | 6 | 18 | 14 | 7 | 7 | 3 | 8 | 4 | 10 | 11 | 9 | 6 |
| Liver disease, etc. | 45 | 1 | 2 | 4 | 2 | 4 | 4 | 4 | 6 | 5 | 5 | 4 | 4 |
| *Lung diseases* | *631* | *122* | *58* | *49* | *79* | *71* | *37* | *32* | *19* | *31* | *41* | *48* | *45* |
| Asthma | 19 | 3 | 4 | 2 | 1 | 1 | 1 | 1 | ... | 2 | 1 | 2 | 1 |
| Bronchitis | 188 | 27 | 10 | 14 | 24 | 26 | 14 | 9 | 4 | 12 | 8 | 19 | 21 |
| Pleurisy | 6 | ... | 1 | ... | 2 | ... | 1 | 1 | ... | ... | ... | 1 | ... |
| Pneumonia | 407 | 91 | 48 | 31 | 51 | 44 | 20 | 20 | 14 | 15 | 31 | 25 | 22 |
| Lung disease, etc. | 11 | 1 | ... | 1 | 1 | ... | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| Rheumatism | 17 | 3 | 1 | 1 | 2 | 4 | 1 | 1 | ... | ... | ... | 2 | 3 |
| Septicæmia | 29 | 1 | 1 | ... | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 3 | 6 |
| Spine disease, etc. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Stomach diseases | 48 | 4 | 3 | 5 | 3 | 2 | 9 | 6 | 5 | 2 | 3 | 3 | 3 |
| Syphilis | 8 | 1 | ... | ... | 1 | ... | 1 | 1 | ... | 2 | 2 | ... | ... |
| Unclassified | 450 | 44 | 40 | 38 | 39 | 58 | 39 | 48 | 27 | 33 | 35 | 31 | 23 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dysentery | 6 | 1 | 1 | ... | ... | ... | 1 | 1 | 2 | ... | ... | ... | ... |
| Peritonitis | 71 | 9 | 6 | 4 | 6 | 4 | 6 | 9 | 8 | 5 | 7 | 4 | 3 |
| Bowel disease, etc. | 44 | 6 | 1 | 3 | 3 | 1 | 3 | 5 | 6 | 6 | 5 | 3 | 2 |
| *Brain diseases* | *300* | *23* | *19* | *26* | *30* | *42* | *18* | *31* | *31* | *18* | *27* | *16* | *19* |
| Apoplexy | 61 | 4 | 4 | 7 | 8 | 5 | 2 | 6 | 9 | 4 | 5 | 4 | 3 |
| Brain, Inflammation of | 32 | 2 | 1 | 4 | 3 | 13 | ... | 3 | 1 | ... | 2 | 2 | 1 |
| Epilepsy | 4 | ... | 1 | ... | 1 | ... | ... | ... | 1 | ... | 1 | ... | ... |
| Meningitis | 124 | 8 | 12 | 9 | 10 | 14 | 11 | 13 | 15 | 9 | 13 | 4 | 6 |
| Paralysis | 70 | 5 | 1 | 5 | 8 | 10 | 5 | 8 | 5 | 5 | 5 | 6 | 7 |
| Brain disease, etc. | 9 | 4 | ... | 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | 2 |
| Cancer | 94 | 13 | 6 | 10 | 7 | 9 | 9 | 4 | 5 | 5 | 7 | 5 | 14 |
| Tumor | 6 | 1 | ... | ... | ... | 3 | ... | ... | ... | ... | 1 | ... | 1 |
| Childbirth | 27 | 2 | 3 | 3 | 3 | 4 | 2 | ... | 2 | 4 | 1 | 1 | 2 |
| Convulsions | 299 | 16 | 27 | 27 | 29 | 30 | 24 | 25 | 29 | 22 | 21 | 27 | 22 |
| Diabetes | 9 | ... | 2 | ... | 1 | ... | ... | ... | 1 | 1 | 1 | 1 | 2 |
| Dropsy | 48 | 5 | 2 | 3 | 4 | 5 | 4 | 2 | 5 | 7 | 3 | 5 | 8 |
| Fever | 2 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... |
| Fever, Malarial | 28 | 2 | ... | 1 | 2 | 5 | ... | 3 | 2 | 4 | 2 | 4 | 3 |
| Heart diseases | 216 | 21 | 12 | 18 | 22 | 26 | 12 | 16 | 28 | 8 | 21 | 11 | 21 |
| Influenza | 25 | ... | ... | 3 | 14 | 4 | ... | ... | ... | ... | 1 | ... | 3 |
| Kidney diseases | 86 | 2 | 6 | 10 | 13 | 8 | 9 | 8 | 6 | 7 | 5 | 5 | 7 |
| Liver disease, etc. | 83 | 2 | ... | 3 | 3 | 2 | 3 | 2 | 9 | 4 | 2 | 1 | 2 |
| *Lung diseases* | *569* | *71* | *56* | *59* | *78* | *57* | *45* | *17* | *25* | *20* | *21* | *51* | *69* |
| Asthma | 21 | 2 | ... | 2 | 2 | 2 | 1 | 3 | ... | 1 | 2 | 5 | 1 |
| Bronchitis | 158 | 23 | 12 | 21 | 18 | 10 | 17 | 7 | 6 | 4 | 6 | 14 | 20 |
| Pleurisy | 5 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 |
| Pneumonia | 370 | 41 | 43 | 36 | 58 | 44 | 22 | 7 | 16 | 15 | 12 | 31 | 45 |
| Lung disease, etc. | 15 | 4 | ... | ... | ... | 1 | 5 | ... | 3 | ... | ... | 1 | 1 |
| Rheumatism | 8 | 2 | ... | ... | 1 | 1 | ... | ... | ... | ... | 2 | 2 | ... |
| Septicæmia | 24 | 3 | 2 | 5 | 3 | 2 | 2 | 2 | 2 | 2 | ... | 1 | ... |
| Spine disease, etc. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Stomach diseases | 39 | 1 | 3 | 5 | 3 | 1 | 3 | 2 | 1 | 5 | 8 | 3 | 4 |
| Syphilis | 9 | ... | ... | 1 | 2 | ... | 1 | ... | ... | 2 | 1 | 2 | ... |
| Unclassified | 482 | 34 | 28 | 47 | 47 | 29 | 38 | 46 | 42 | 39 | 41 | 44 | 47 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dysentery | 14 | 2 | ... | ... | ... | 1 | 1 | 6 | 3 | ... | ... | ... | 1 |
| Peritonitis | 56 | 4 | 3 | 5 | 5 | 5 | 4 | 5 | 8 | 5 | 3 | 6 | 3 |
| Bowel disease, etc. | 41 | 6 | ... | 5 | 4 | 2 | 5 | 5 | 6 | 3 | 3 | 1 | 1 |
| *Brain diseases* | *309* | *31* | *21* | *26* | *23* | *32* | *27* | *28* | *30* | *27* | *24* | *19* | *21* |
| Apoplexy | 58 | 7 | 3 | 5 | 1 | 3 | 5 | 4 | 6 | 9 | 10 | 3 | 4 |
| Brain, Inflammation of | 39 | 3 | 3 | 2 | 1 | 9 | 3 | 2 | 7 | 3 | 1 | 3 | 2 |
| Epilepsy | 8 | 2 | 2 | ... | 1 | ... | ... | ... | 1 | 1 | ... | 1 | ... |
| Meningitis | 100 | 6 | 6 | 10 | 8 | 11 | 9 | 11 | 12 | 9 | 5 | 4 | 9 |
| Paralysis | 92 | 11 | 6 | 8 | 10 | 8 | 10 | 11 | 4 | 3 | 7 | 9 | 5 |
| Brain disease, etc. | 12 | 2 | 2 | 1 | 2 | 1 | ... | ... | ... | 2 | 1 | ... | 1 |
| Cancer | 104 | 16 | 4 | 8 | 8 | 9† | 4 | 11 | 10 | 10 | 7 | 9 | 8 |
| Tumor | 4 | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | 1 |
| Childbirth | 16 | 1 | 1 | 3 | ... | ... | 2 | 1 | 4 | 3 | 1 | ... | ... |
| Convulsions | 251 | 25 | 17 | 18 | 15 | 20 | 21 | 24 | 20 | 31 | 22 | 17 | 21 |
| Diabetes | 6 | 2 | ... | 2 | ... | ... | 1 | ... | ... | 1 | ... | ... | ... |
| Dropsy | 47 | 2 | 7 | 5 | 3 | 5 | 2 | 4 | 4 | 4 | 4 | 6 | 1 |
| Fever | 2 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... |
| Fever, Malarial | 23 | 3 | ... | 2 | ... | 1 | 1 | 4 | 4 | 4 | 2 | 2 | ... |
| Heart diseases | 178 | 19 | 14 | 21 | 21 | 17 | 17 | 17 | 18 | 11 | 5 | 7 | 11 |
| Influenza | 14 | 11 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Kidney diseases | 72 | 8 | 7 | 9 | 5 | 4 | 3 | 8 | 6 | 7 | 7 | 4 | 4 |
| Liver disease, etc. | 29 | 1 | 2 | 5 | 4 | 1 | ... | 4 | 3 | 2 | 1 | 2 | 4 |
| *Lung diseases* | *567* | *111* | *47* | *52* | *52* | *55* | *40* | *34* | *29* | *31* | *36* | *32* | *48* |
| Asthma | 21 | 4 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 3 |
| Bronchitis | 116 | 29 | 12 | 8 | 10 | 13 | 8 | 9 | 5 | 5 | 4 | 4 | 9 |
| Pleurisy | 8 | ... | ... | 1 | 1 | ... | ... | 3 | ... | 1 | 1 | ... | 1 |
| Pneumonia | 392 | 76 | 31 | 36 | 38 | 38 | 28 | 21 | 19 | 21 | 26 | 25 | 38 |
| Lung disease, etc. | 30 | 2 | 2 | 6 | 1 | 3 | 2 | ... | 4 | 2 | 4 | 2 | 2 |
| Rheumatism | 15 | 1 | 2 | 3 | 2 | 1 | 1 | ... | 2 | ... | ... | 1 | 2 |
| Septicæmia | 22 | 3 | ... | 2 | 2 | 1 | 2 | ... | 2 | 3 | 2 | 3 | 2 |
| Spine disease, etc. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Stomach diseases | 44 | 3 | 7 | 1 | 5 | 5 | 2 | 5 | 5 | 5 | 3 | 2 | 1 |
| Syphilis | *4 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... |
| Unclassified | 441 | 41 | 38 | 40 | 35 | 33 | 38 | 35 | 34 | 31 | 52 | 32 | 32 |

* Deaths *registered* as they occur, not enumerated sometime afterwards. † Includes 4 cases of "typhus fever."

**Table 108.**—*Deaths from important diseases and groups of diseases registered* by the city board of health of Grand Rapids for the years 1890–92, inclusive, by months.*

| Causes of death. | Year 1892. | Months, 1892. | | | | | | | | | | | | Year 1891. | Months, 1891. | | | | | | | | | | | Year 1890. | Months, 1890. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| TOTAL DEATHS: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Still-births included* | 1352 | 166 | 99 | 110 | 118 | 97 | 96 | 142 | 134 | 114 | 102 | 78 | 96 | 1317 | 80 | 96 | 119 | 129 | 96 | †58 | 93 | 152 | 150 | 123 | 106 | 115 | 1091 | 94 | 105 | 76 | 82 | 78 | 60 | 100 | 147 | 107 | 76 | 79 | 87 |
| *Still-births excluded* | 1188 | 152 | 86 | 91 | 105 | 87 | 80 | 132 | 124 | 95 | 84 | 70 | 82 | 1206 | 77 | 90 | 104 | 112 | 80 | 58 | 84 | 143 | 137 | 120 | 98 | 103 | 1012 | 89 | 99 | 70 | 76 | 75 | 54 | 93 | 144 | 97 | 66 | 70 | 79 |
| SPECIFIED DISEASES | 1133 | 151 | 85 | 84 | 93 | 83 | 77 | 124 | 118 | 91 | 80 | 65 | 77 | 1169 | 76 | 88 | 102 | 111 | 77 | 54 | 83 | 140 | 135 | 115 | 91 | 97 | 968 | 85 | 96 | 67 | 69 | 69 | 48 | 91 | 140 | 93 | 65 | 67 | 78 |
| *Dangerous communicable diseases* | *291* | *24* | *21* | *25* | *35* | *26* | *22* | *25* | *30* | *21* | *18* | *17* | *27* | *329* | *29* | *20* | *32* | *28* | *19* | *12* | *22* | *28* | *40* | *36* | *40* | *23* | *312* | *30* | *41* | *30* | *21* | *24* | *7* | *16* | *28* | *29* | *34* | *25* | *27* |
| Consumption | 129 | 14 | 11 | 11 | 12 | 8 | 11 | 14 | 16 | 11 | 6 | 4 | 11 | 111 | 15 | 8 | 7 | 8 | 10 | 2 | 8 | 11 | 10 | 12 | 13 | 7 | 120 | 11 | 10 | 15 | 10 | 13 | 5 | 11 | 10 | 10 | 10 | 6 | 9 |
| Other tubercul'r diseases | 31 | 1 | 4 | ... | 4 | 3 | 2 | 2 | 7 | 2 | 3 | 3 | 3 | 42 | 1 | 1 | 3 | 5 | ... | ... | 4 | 6 | 7 | 7 | 4 | 4 | 20 | 2 | 3 | 2 | ... | ... | 1 | ... | 3 | 4 | 2 | 1 | 2 |
| Croup | 8 | 1 | .. | ... | 1 | 1 | 2 | ... | ... | ... | 2 | ... | 1 | 10 | 2 | ... | ... | 3 | ... | 1 | ... | ... | ... | 2 | 2 | ... | 20 | ... | 8 | 1 | 1 | 1 | 1 | ... | 1 | 1 | 1 | 3 | 2 |
| Diphtheria | 44 | 2 | 2 | ... | 5 | 5 | 4 | 2 | 3 | 4 | 1 | 7 | 9 | 84 | 7 | 4 | 9 | 3 | 3 | 4 | 4 | 11 | 12 | 10 | 11 | 6 | 97 | 14 | 16 | 9 | 6 | 8 | ... | 4 | 7 | 6 | 10 | 7 | 10 |
| Erysipelas | 2 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 | ... |
| Fever, Puerperal | 7 | ... | ... | 1 | 2 | 1 | ... | 1 | ... | ... | 1 | ... | 1 | 6 | ... | 1 | 1 | ... | 1 | 1 | 1 | ... | ... | ... | ... | 1 | 4 | ... | 1 | 1 | ... | 1 | ... | ... | ... | ... | 1 | ... |
| Fever, Scarlet | 7 | 1 | 1 | 2 | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | 22 | ... | 2 | 4 | 4 | 1 | 2 | 3 | ... | 2 | 1 | 2 | 1 | 7 | 2 | 1 | ... | ... | ... | ... | ... | 1 | 1 | 1 | 1 |
| Fever, Typhoid | 52 | 5 | 2 | 10 | 10 | 6 | 2 | 5 | 3 | 3 | 4 | 1 | 1 | 45 | 4 | 4 | 7 | 2 | 3 | 1 | 1 | ... | 8 | 3 | 8 | 4 | 36 | 1 | 1 | ... | 3 | ... | ... | ... | 6 | 7 | 10 | 5 | 3 |
| Measles | 3 | ... | ... | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 3 | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... |
| Small-pox | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Chicken-pox | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Whooping-cough | 5 | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | 1 | 1 | ... | 6 | ... | ... | ... | 2 | 1 | 1 | ... | ... | 1 | 1 | ... | ... | 2 | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| *Bladder diseases* | 2 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 6 | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | 1 | ... | 2 | 7 | ... | ... | 2 | 1 | ... | 1 | 1 | ... | 2 | ... | ... | ... |
| *Bowel diseases* | *154* | *4* | *7* | *7* | *9* | *2* | *10* | *36* | *38* | *26* | *12* | *2* | *3* | *157* | *3* | *4* | *4* | *4* | *6* | *5* | *18* | *52* | *32* | *17* | *4* | *8* | *145* | *3* | *5* | *4* | *4* | *5* | *3* | *32* | *53* | *23* | *4* | *7* | *2* |
| Bowels, Inflammation of | 32 | 2 | 3 | 1 | 4 | 1 | 1 | 5 | 7 | 5 | 2 | 1 | ... | 46 | 2 | 2 | ... | ... | 1 | ... | 5 | 11 | 11 | 9 | 1 | 4 | 35 | 2 | 2 | 1 | 2 | 2 | 1 | 5 | 11 | 7 | 1 | 1 | ... |
| Diarrhea | 14 | ... | ... | ... | 1 | ... | ... | 4 | 2 | 3 | 4 | ... | ... | 14 | 1 | ... | 1 | ... | ... | ... | ... | 1 | 5 | 4 | ... | 2 | 7 | ... | ... | ... | ... | ... | ... | ... | 4 | 1 | 1 | ... | 1 |
| Cholera infantum | 49 | ... | 1 | ... | ... | ... | 2 | 18 | 19 | 7 | 2 | ... | ... | 54 | ... | ... | ... | ... | ... | 1 | 9 | 32 | 12 | ... | ... | ... | 73 | ... | ... | ... | 1 | ... | ... | 26 | 36 | 8 | 1 | ... | 1 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dysentery | 9 | ... | ... | ... | ... | ... | ... | ... | 4 | 3 | 1 | ... | 1 | 9 | ... | ... | ... | ... | ... | ... | 2 | 4 | 1 | 2 | ... | ... | 4 | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 1 | ... | ... |
| Peritonitis | 36 | 1 | 3 | 3 | 4 | ... | 5 | 7 | 2 | 5 | 3 | 1 | 2 | 25 | ... | ... | 2 | 4 | 4 | 4 | ... | 3 | 3 | 2 | 1 | 2 | 18 | 1 | 2 | 3 | ... | 1 | 1 | ... | ... | 2 | ... | 3 | ... |
| Bowel disease, etc. | 14 | 1 | ... | 3 | ... | 1 | 2 | 2 | 2 | 3 | ... | ... | ... | 9 | ... | 2 | 1 | ... | 1 | ... | 2 | 1 | ... | ... | 2 | ... | 13 | ... | 1 | ... | 1 | 2 | 1 | 1 | 2 | 2 | ... | 3 | ... |
| *Brain diseases* | *107* | *11* | *4* | *8* | *4* | *9* | *9* | *17* | *11* | *10* | *13* | *5* | *6* | *124* | *5* | *15* | *13* | *9* | *13* | *6* | *11* | *12* | *19* | *9* | *4* | *8* | *89* | *9* | *2* | *6* | *8* | *2* | *9* | *9* | *17* | *11* | *8* | *10* | *9* |
| Apoplexy | 21 | 2 | 1 | 1 | 1 | ... | 2 | 3 | 2 | 1 | 4 | 2 | 2 | 28 | ... | ... | 5 | 2 | 4 | 2 | 5 | 1 | 2 | 3 | 2 | 2 | 12 | 2 | 1 | ... | ... | ... | ... | 2 | 2 | ... | 1 | 3 | 1 |
| Brain, Inflammation of | 17 | 4 | 2 | ... | 2 | 4 | 4 | ... | ... | 1 | ... | ... | ... | 27 | ... | 7 | 1 | 2 | ... | ... | 2 | 10 | 2 | 1 | ... | 2 | 31 | ... | ... | ... | ... | 2 | 3 | 1 | 13 | 5 | 1 | 4 | 2 |
| Epilepsy | 3 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 2 | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Meningitis | 41 | ... | ... | 2 | 1 | 3 | 1 | 11 | 8 | 3 | 5 | 3 | 4 | 36 | 2 | ... | 6 | 3 | 6 | 2 | 4 | ... | 7 | 3 | 2 | 1 | 18 | ... | ... | ... | 3 | ... | 2 | 5 | 1 | 1 | ... | 1 | 5 |
| Paralysis | 18 | 4 | ... | 3 | ... | 1 | 1 | 2 | 1 | 3 | 3 | ... | ... | 20 | ... | 6 | 1 | 2 | 1 | ... | ... | 1 | 6 | 2 | ... | 1 | 17 | ... | ... | 4 | ... | ... | 4 | ... | 1 | 4 | 1 | 2 | 1 |
| Brain disease, etc. | 7 | ... | 1 | 2 | ... | 1 | 1 | 1 | ... | 1 | ... | ... | ... | 11 | 3 | 1 | ... | ... | 2 | 1 | ... | ... | 2 | ... | ... | 2 | 11 | 1 | 1 | 2 | 5 | ... | ... | 1 | ... | 1 | ... | ... | ... |
| Cancer | 42 | 4 | 2 | 1 | 1 | 1 | 7 | 6 | 4 | 6 | 4 | 2 | 4 | 44 | 6 | 4 | 4 | 2 | 2 | 2 | 4 | 5 | 3 | 8 | 1 | 3 | 25 | 1 | 1 | 2 | 2 | 5 | 2 | 2 | 1 | 1 | 4 | 2 | 2 |
| Tumor | 6 | 1 | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 1 | 2 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 1 | ... | 1 |
| Childbirth | 4 | ... | 1 | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | ... | 4 | 1 | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... |
| Convulsions | 33 | 5 | 1 | 8 | 5 | 2 | 1 | 7 | 3 | ... | 4 | 2 | ... | 38 | 1 | 2 | 2 | 8 | 5 | 2 | 2 | 6 | 2 | 2 | 4 | 2 | 22 | ... | 1 | 8 | 1 | 2 | 1 | 2 | 7 | 2 | ... | 1 | 2 |
| Diabetes | 4 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | 6 | ... | ... | ... | 2 | 1 | 1 | 1 | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... |
| Dropsy | 7 | ... | 1 | ... | ... | ... | ... | ... | ... | 2 | ... | 2 | 2 | 9 | 1 | ... | 4 | ... | ... | ... | 1 | 1 | ... | ... | 1 | 1 | 7 | 1 | ... | ... | ... | 1 | ... | ... | 2 | ... | 1 | ... | 2 |
| Fever | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... |
| Fever, Malaria | 13 | ... | 1 | 2 | 2 | ... | ... | ... | 3 | 2 | 3 | ... | ... | 5 | ... | 3 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 8 | 1 | ... | 1 | 1 | ... | 1 | 2 | ... | ... | ... | 1 | 1 |
| Heart diseases | 58 | 7 | 7 | 1 | 2 | 5 | 4 | 3 | 4 | 4 | 3 | 7 | 11 | 75 | 7 | 7 | 11 | 5 | 2 | 3 | 6 | 5 | 6 | 10 | 9 | 4 | 66 | 4 | 5 | 8 | 5 | 3 | 4 | 6 | 4 | 6 | 3 | 8 | 10 |
| Influenza | 42 | 32 | 2 | 4 | 3 | ... | 1 | ... | ... | ... | ... | ... | ... | 23 | 1 | ... | 1 | 8 | 4 | 1 | ... | ... | ... | ... | ... | 8 | 10 | 1 | 6 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... |
| Kidney diseases | 22 | 4 | 2 | ... | 2 | 4 | 2 | 2 | 1 | ... | 2 | 2 | 1 | 17 | 3 | ... | ... | 3 | ... | 2 | 3 | 2 | ... | 2 | 1 | 1 | 17 | 2 | 5 | ... | 1 | ... | ... | 1 | 2 | 3 | 1 | 2 | ... |
| Liver diseases, etc. | 11 | 1 | ... | ... | 2 | ... | ... | 3 | 1 | 3 | ... | ... | 1 | 10 | ... | 1 | 2 | 3 | 1 | 1 | ... | 1 | ... | 1 | ... | ... | 10 | ... | 1 | ... | ... | ... | 1 | 2 | 4 | ... | ... | 1 | 1 |
| *Lung diseases* | *296* | *42* | *25* | *15* | *21* | *30* | *11* | *13* | *6* | *7* | *20* | *26* | *9* | *260* | *14* | *13* | *26* | *28* | *10* | *9* | *6* | *10* | *13* | *18* | *8* | *20* | *102* | *20* | *14* | *5* | *9* | *18* | *7* | *8* | *5* | *4* | *2* | *3* | *7* |
| Asthma | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Bronchitis | 16 | 3 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | ... | 1 | 2 | 1 | 12 | 1 | 2 | 1 | 2 | 1 | ... | ... | ... | 2 | 2 | ... | 1 | 12 | 2 | 2 | ... | 1 | 3 | 2 | ... | 1 | ... | 1 | ... | ... |
| Pleurisy | 2 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 3 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Pneumonia | 172 | 38 | 28 | 13 | 19 | 18 | 9 | 11 | 5 | 6 | 9 | 13 | 8 | 139 | 12 | 11 | 13 | 26 | 7 | 9 | 6 | 10 | 11 | 10 | 8 | 16 | 81 | 16 | 12 | 5 | 6 | 14 | 5 | 7 | 3 | 3 | 1 | 2 | 7 |
| Lung disease, etc. | 4 | ... | 1 | ... | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... | 6 | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 6 | 1 | ... | ... | 1 | 1 | ... | 1 | 1 | 1 | ... | ... | ... |
| Rheumatism | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 6 | ... | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | 1 | 2 | 5 | ... | 1 | ... | ... | 2 | ... | ... | ... | 1 | ... | 1 | ... |
| Septicæmia | 9 | 1 | 1 | 2 | ... | 2 | ... | 1 | ... | 2 | ... | ... | ... | 17 | 1 | ... | 2 | ... | ... | 1 | 1 | 2 | ... | ... | 7 | 3 | 10 | 1 | ... | ... | 1 | ... | 3 | 3 | ... | 1 | ... | 1 | ... |
| Spine disease, etc. | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... |
| Stomach diseases | * 21 | ... | 2 | 2 | 4 | 1 | 1 | ... | 5 | 1 | 1 | 2 | 2 | 17 | 1 | ... | 2 | 1 | 2 | 1 | 1 | 3 | 2 | 1 | 2 | 1 | 10 | ... | 1 | ... | ... | ... | 1 | 1 | 1 | 1 | 4 | ... | 1 |
| Syphilis | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Unclassified | 111 | 14 | 8 | 14 | 8 | 16 | 7 | 9 | 14 | 6 | 9 | 5 | 7 | 118 | 8 | 18 | 7 | 8 | 11 | 5 | 6 | 10 | 18 | 15 | 7 | 10 | 112 | 17 | 12 | 4 | 9 | 7 | 8 | 5 | 16 | 8 | 8 | 5 | 13 |

* Deaths *registered* as they occur, not enumerated sometime afterwards. † Report of still-births omitted for this month.

*Comparison of the death-rates per 100,000 population from certain important diseases as enumerated by supervisors for the State of Michigan, and as immediately registered by city boards of health for Detroit and Grand Rapids, 1890–92.*

| Causes of death. | As enumerated by supervisors for the State of Michigan. | | | As registered by city boards of health. | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Detroit. | | | Grand Rapids. | | |
| | 1892. | 1891. | 1890. | 1892. | 1891. | 1890. | 1892. | 1891. | 1890. |
| Consumption | 95.9 | 96.7 | 105.4 | 171.7 | 170.2 | 161.3 | 184.7 | 170.6 | 199.1 |
| Diphtheria and croup | 60.5 | 63.3 | 83.0 | 204.6 | 169.3 | 243.8 | 74.4 | 144.5 | 194.1 |
| Scarlet fever | 20.4 | 18.8 | 10.6 | 92.9 | 82.7 | 18.9 | 10.0 | 33.8 | 11.6 |
| Typhoid fever* | 30.2 | 33.2 | 24.0 | 87.4 | 29.5 | 13.6 | 74.4 | 69.2 | 59.7 |
| Measles | 3.3 | 10.6 | 10.9 | 2.7 | 14.5 | 19.4 | 4.3 | 1.5 | 5.0 |
| Whooping-cough | 6.8 | 7.4 | 3.6 | 7.2 | 7.5 | 3.4 | 7.2 | 9.2 | 3.3 |
| Bowel diseases | 75.2 | 89.2 | 88.1 | 311.9 | 303.9 | 235.1 | 220.5 | 241.3 | 240.6 |
| Brain diseases | 70.8 | 75.7 | 73.7 | 165.0 | 140.3 | 156.1 | 153.2 | 190.6 | 147.6 |
| Cancer and tumor | 32.2 | 32.4 | 31.3 | 51.8 | 46.8 | 52.5 | 68.7 | 69.2 | 48.1 |
| Childbirth | 11.3 | 12.0 | 9.3 | 14.4 | 12.6 | 7.8 | 5.7 | 6.1 | 3.3 |
| Convulsions | 25.3 | 25.7 | 16.7 | 140.2 | 139.8 | 121.9 | 47.2 | 58.4 | 36.5 |
| Heart disease† | 61.3 | 63.2 | 56.6 | 87.9 | 101.0 | 84.0 | 83.0 | 115.3 | 109.5 |
| Influenza | 41.8 | 50.5 | 51.8 | 25.2 | 11.7 | 6.8 | 60.1 | 35.3 | 16.6 |
| Kidney diseases | 20.4 | 19.1 | 15.8 | 44.2 | 40.2 | 35.0 | 31.5 | 26.1 | 28.2 |
| Lung disease‡ | 81.4 | 79.9 | 85.3 | 284.4 | 266.1 | 275.4 | 279.1 | 245.9 | 169.2 |
| Pneumonia § | 63.9 | 63.2 | 58.5 | 183.5 | 173.0 | 190.4 | 246.2 | 213.6 | 134.4 |

* Including a few deaths from "typhus" and "typho-malarial" fevers.
† Including "heart failure" in rates for Michigan; this term does not appear in the city reports.
‡ Including pneumonia, but not including consumption.
§ Including "congestion of lungs."

DEATHS BY MONTHS OF OCCURRENCE.

Tables 107 and 108 display the mortality from the most important diseases returned as causes of death in Detroit and Grand Rapids, respectively, for each month of the three years 1890-92. In some respects these tables may be regarded as the most important that appear in this report, inasmuch as they contain the first authentic information ever given in the Michigan registration reports in regard to the distribution of deaths through the months of the year. The data contained in them is based upon a system of *immediate registration*. Should there be any deficiency in the total amount of registration, that deficiency is presumably distributed over all the months of the year in a similar degree, whence the relations of the deaths in the several months of the year, as registered, are substantially the true relations. In the State system of enumeration this is known not to be the case, but, as has been explained many times in these reports,* the months of the registration year most remote from the time of enum

* The important subject of the omissions in registration by the Michigan system, with estimations of the numbers of births and deaths unregistered for each month, was first discussed by Dr. Henry B. Baker in the *Statistics of Michigan, 1870*, and in the registration report for the same year. Every registration report of Michigan since that time has made reference to this deficiency, whose nature and distribution, in a general way, is undoubtedly the same as theoretically concluded. Some direct light is given upon this subject in the present report by comparing deaths enumerated and deaths registered for the months of the same year in Kent and Wayne counties and Grand Rapids and Detroit, which cities constitute the major portions of the populations of these counties respectively.

eration by the supervisors in April and May of the year following show the greatest amounts of loss. The result is that all comparative statements of mortality in different months and seasons based directly upon the supervisors' returns are more or less incorrect, and it becomes difficult to make any exact study of the influence of meteorological conditions upon mortality. The population of these two cities, taken together, constitutes nearly 40 per cent of the total city population of the State, and makes up over 14 per cent of its entire population. There are, therefore, a sufficient number of inhabitants represented in these tables to enable an approximate opinion to be formed as to the true death-rate of the State from all causes, from certain specified diseases, and also in regard to the seasonal distribution of mortality. The distribution of deaths by months for the State is also introduced in the following table, the numbers being made more conveniently comparable with those of the individual counties and cities by being divided by ten.

*Comparison of the deaths enumerated, by months, in the State of Michigan (one-tenth),* Wayne and Kent counties for the year 1892, with the deaths registered in Detroit and Grand Rapids for the same time.*

| | Year 1892. | Months, 1892. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| State* | 2,173 | 215 | 169 | 173 | 188 | 170 | 148 | 168 | 194 | 180 | 189 | 179 | 195 |
| Wayne county | 3,722 | 306 | 263 | 307 | 340 | 330 | 281 | 393 | 348 | 254 | 277 | 292 | 328 |
| City of Detroit | 5,417 | 532 | 374 | 436 | 493 | 453 | 423 | 686 | 501 | 433 | 394 | 359 | 333 |
| Kent county | 1,321 | 154 | 96 | 92 | 138 | 88 | 88 | 120 | 123 | 119 | 106 | 79 | 118 |
| City of G'd Rapids | 1,352 | 166 | 99 | 110 | 118 | 97 | 96 | 142 | 134 | 114 | 102 | 78 | 96 |

* For convenience one-tenth of the numbers registered for the year and months in Michigan is stated.

The remarkably high mortality in the early months of 1892 is plainly shown in the registers of Detroit and Grand Rapids, while it does not appear at all prominent in the returns by the State system. It is true that it may be inferred from the latter returns by one acquainted with the distribution of the omissions from the fact that it is very unusual—in fact, has never occurred prior to 1892—that the number of deaths returned for January should exceed those in any other month of the year. This unique character of the year was alluded to, and statements made that a reliable registration would probably show a very excessive mortality for the early part of the year, on previous pages (pp. 108 and 189), and before the distribution of deaths in Detroit and Grand Rapids, so fully confirmatory of the remarks there made, had been studied. But these statements were, of course, only general, and we cannot know the exact facts that are necessary for the satisfactory study of the relations of disease and climatic conditions until we have an accurate registration of deaths throughout the State. As shown by the following comparison, the deaths enumerated from any specified disease, e. g., consumption, appear to show the same irregularities as deaths from all causes. The inference is plain, therefore, that all direct comparisons of deaths recorded in each month from different diseases and coincident meteorological conditions are unreliable, and the tables making such comparisons in previous reports have been accordingly omitted from the present compilation.

*Comparison of deaths from consumption, by months, as enumerated for the State of Michigan, and as registered for the cities of Detroit and Grand Rapids, 1892.*

| State and cities. | Year 1892. | Months, 1892. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
| State | 2,080 | 177 | 151 | 173 | 187 | 199 | 190 | 167 | 179 | 164 | 177 | 143 | 169 |
| Detroit | 381 | 40 | 24 | 43 | 37 | 41 | 22 | 42 | 23 | 33 | 31 | 25 | 29 |
| Grand Rapids | 139 | 14 | 11 | 11 | 12 | 8 | 11 | 14 | 16 | 11 | 6 | 4 | 11 |

LOCAL REGISTRATION OF BIRTHS.

As the system of registration of births in Detroit has only been in operation since August, 1893, the results obtained by it do not properly come within the period of time covered by this report. About 6,000 births were registered during the first year of the operation of the law. The following statement of the working of the ordinance for the collection of births in Grand Rapids is from a letter from Dr. W. A. Wilson, Secretary of the Grand Rapids Board of Health, and contains a suggestion of much value. It is only by the immediate registration of births and deaths at State expense and under State supervision that satisfactory results will be obtained.

"We believe our death registration to be absolutely correct,—no interments are allowed in our cemeteries without a permit from this department.

"Of our birth record we cannot speak with as full confidence. The general laws of the State provide for the report of births once each year by the supervisor to the county clerk, and provide compensation for the same. Our city charter gives the board of health power to 'Regulate reports of births and deaths, and provide for their registration,' but does not provide compensation for the reports. The board, through the common council, provided the ordinance under which we are now working—a copy of which I sent you.* There being no compensation provided for these reports, it has always been my opinion they were not as complete as they might be made. I suggested to Secretary Baker last year the advisability of an amendment to the State law requiring all physicians, midwives, or persons acting as such, to report all births to the local board of health of their respective cities or townships, and providing compensation for the same, said boards to report once each month to the county clerk. . . . We commenced operations on the birth record in April, 1891. Although our ordinance did not pass until October of that year, we advertised the opening of the record and asked for such reports. For the calendar year beginning May 1 to Dec. 31, 1891, we had 565 birth reports. For 1892 we had 1,462, and for 1893, to Nov. 30, 1,477. For the calendar year 1891 our death record was 1,198; 1892, 1,188, and for 1893, to Nov. 30, 1,071. This is exclusive of premature and still-births, and for 1891 and 1892 exclusive of deaths by violence."

COMPARATIVE DEATH-RATES OF AMERICAN CITIES.

In few respects have vital statistics been more abused and the deductions based upon the registration of deaths more discredited than in the death-rates occasionally set forth by local municipal authorities. There is generally a tendency to make the death-rates in the latest report—those for which the public health administration that prepares the statistics is or conceives itself to be responsible—as low as possible, while the death-rates of previous years or of other cities employed for comparison have, at least, their full value assigned. As the death-rate is a compound term depending for its value on the correct statement both of the total number of deaths and of the population from which those deaths are derived, it is easy by careless or intentional misstatement to depress the mortality below its true amount. This may be done either by understating the number of deaths, by overestimating the population, or even by making an erroneous report bearing no relation to the deaths and population. This latter method is possible only when the public can be depended upon to accept any figures officially stated, without scrutiny into the means by which they were obtained. It has

* See page 302.

been employed in this State within the present year (1894), and its results have passed without question. It would be easy to designate a number of American cities in which the mortality is regularly understated, or at least in which the results of very imperfect systems of municipal registration are set forth with all the suggestions of being the truth, and which occasionally furnish the newspaper paragrapher an item in regard to the "healthiest city" by their abnormally low death-rates.

**Table 109.**—*Comparative mortality of certain cities of the United States for the year ended December 31, 1892, as reported by the U. S. Marine-Hospital Bureau.*

| Cities. | Population, U. S. census, 1890. | Total deaths from all causes. | Annual death-rate per 1,000 of the population. |
|---|---|---|---|
| New York, N. Y. | 1,515,301 | 44,139 | 29.1 |
| Chicago, Ill. | 1,099,850 | 26,048 | 23.7 |
| Philadelphia, Pa. | 1,046,964 | 24,163 | 23.1 |
| Brooklyn, N. Y. | 806,343 | 20,690 | 25.6 |
| Boston, Mass. | 448,477 | 11,147 | 24.8 |
| Baltimore, Md. | 434,439 | 10,516 | 24.2 |
| San Francisco, Cal. | 298,997 | 6,477 | 21.7 |
| Cincinnati, Ohio | 296,908 | 5,979 | 20.2 |
| Cleveland, Ohio | 261,353 | 5,207 | 19.8 |
| New Orleans, La. | 242,039 | 7,467 | 30.9 |
| Pittsburgh, Pa. | 238,617 | 5,412 | 22.7 |
| Washington, D. C. | 230,392 | 6,370 | 27.6 |
| Detroit, Mich. | 205,876 | 4,958 | 24.0 |
| Milwaukee, Wis. | 204,468 | 4,442 | 21.7 |
| Newark, N. J. | 181,830 | 5,111 | 28.1 |
| Minneapolis, Minn. | 164,738 | 2,558 | 15.5 |
| Louisville, Ky. | 161,129 | 3,129 | 19.4 |
| Rochester, N. Y. | 133,896 | 2,722 | 20.3 |
| Kansas City, Mo. | 132,716 | 1,649 | 12.4 |
| Providence, R. I. | 132,146 | 2,950 | 22.3 |
| Toledo, Ohio | 81,434 | 1,627 | 19.9 |
| Richmond, Va. | 81,388 | 2,054 | 25.2 |
| Nashville, Tenn. | 76,306 | 1,587 | 20.7 |
| Fall River, Mass. | 74,398 | 1,886 | 25.3 |
| Erie, Pa. | 40,634 | 832 | 20.4 |
| Portland, Me. | 36,426 | 795 | 21.8 |
| Binghampton, N. Y. | 35,005 | 685 | 19.6 |
| Altoona, Pa. | 35,000 | 694 | 19.8 |
| Mobile, Ala. | 31,076 | 883 | 28.4 |
| Galveston, Texas | 29,084 | 713 | 24.5 |
| Auburn, N. Y. | 25,858 | 470 | 18.2 |
| San Diego, Cal. | 16,159 | 174 | 10.7 |
| Pensacola, Fla. | 11,750 | 289 | 24.5 |

The statements given in Table 109 are presented simply for the purpose of making a general comparison of the death-rates recorded for certain cities of this country and Detroit. None of the rates are accurate for no allowance has been made for increase of population from 1890 to 1892; in consequence nearly all of the rates would require to be diminished to give the true figures. The total number of deaths recorded for Detroit is nearly the same as that stated in Table 109 (not including still-births), and the death-rate to the estimated population of Detroit in 1892 (221,856) would be 22.3 instead of 24.0 as based upon the population of 1890. The rates are given as presented in the report of the United States Marine Hospital Bureau without revision in this Department.

APPENDIX.

# LAWS OF MICHIGAN

CONCERNING THE

# REQUIREMENT OF A CIVIL LICENSE TO MARRY,

## THE SOLEMNIZATION OF MARRIAGES,

AND THE

## Record, Return and Compilation of Births, Marriages, and Deaths:

WITH SUGGESTIONS TO PERSONS AUTHORIZED TO SOLEMNIZE MARRIAGES, AND INSTRUCTIONS RELATING TO THE COLLECTION OF BIRTHS AND DEATHS BY SUPERVISORS AND ASSESSORS, AND THE RETURN OF BIRTHS, MARRIAGES AND DEATHS BY COUNTY CLERKS.

No particular form required.

(6217.) SEC. 9. In the solemnization of marriage, no particular form shall be required, except that the parties shall solemnly declare, in the presence of the magistrate or minister and the attending witnesses, that they take each other as husband and wife; and in every case there shall be at least two witnesses, besides the minister or magistrate, present at the ceremony.

SEC. 10.* SEC. 11.* SEC. 12.* SEC. 13.* SEC. 14.†

Punishment of persons unauthorized, etc.

(6219.) SEC. 15. If any person shall undertake to join others in marriage, knowing that he is not lawfully authorized so to do, or knowing of any legal impediment to the proposed marriage, he shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by imprisonment in the county jail not more than one year, or by a fine not less than fifty, nor more than five hundred dollars, or by both such fine and imprisonment, in the discretion of the court.

Marriage not void in certain cases.

(6220.) SEC. 16. No marriage solemnized before any person professing to be a justice of the peace or a minister of the gospel, shall be deemed or adjudged to be void, nor shall the validity thereof be in any way affected on account of any want of jurisdiction or authority in such supposed justice or minister: *Provided*, The marriage be consummated with a full belief on the part of the persons so married, or either of them, that they have been lawfully joined in marriage.

Marriages among Quakers, etc.

(6221.) SEC. 17. The preceding provisions of this chapter, so far as they relate to the manner of solemnizing marriages, shall not affect marriages among the people called Friends or Quakers; nor marriages among people of any other particular denomination having, as such, any peculiar mode of solemnizing marriages; but such marriages may be solemnized in the manner heretofore used and practiced in their respective societies or denominations.

Certificates and records made evidence.

(6222.) SEC. 18. The original certificates and records of marriage made by the minister or justice, as prescribed in this chapter, and the record thereof made by the county clerk, or a copy of such record, duly certified by such clerk, shall be received in all courts and places as presumptive evidence of the fact of such marriage.

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## ACT NO. 128, LAWS OF 1887.

FOR THE REQUIRING OF A CIVIL LICENSE IN ORDER TO MARRY, AND THE DUE REGISTRATION OF THE SAME, AND TO PROVIDE A PENALTY FOR THE VIOLATION OF THE PROVISIONS OF THE SAME.‡

Persons intending marriage must obtain license.

SECTION 1. *The People of the State of Michigan enact*, It shall be necessary for all parties intending to be married to obtain a marriage license from the county clerk of the county in which either the man or woman resides, and to deliver the said license to the clergyman or magistrate who is to officiate, before the marriage can be performed. If both parties to be married are non-residents of the State, it shall be necessary to obtain such license from the county clerk of the county in which the marriage is to be performed.§

Where non-residents must obtain license.

Secretary of State to furnish forms, blanks, etc.

SEC. 2. Blank forms for marriage license and certificate, as also proper books of registration ruled for the items contained in said forms, shall be prepared by the Secretary of State, and shall be furnished by him to the county clerks of the various counties of the State in quantities needed.

Form of license.

The blank forms for license and certificate shall be made in duplicate and

* Repealed by Act 194, Laws of 1867, p. 266, Sec. 10.
† Repealed by Act No. 128, Laws of 1887.
‡ This act went into effect September 27, 1887.
§ This section, being Act No. 256, Laws of 1889, went into effect July 3, 1889.

shall provide spaces for the entry of the following items, to wit: The full name, age, color, place of residence, place of birth, occupation, and if known, the father's name, and mother's maiden name, of each of the parties to be married; the number of times either of the parties may have been previously married; the bride's maiden name, in case she is a widow; the date of the giving of the license; the signature of the county clerk; the date and place of the marriage, the names and residences of two witnesses to the marriage, and the certification of the officiating clergyman or magistrate, that the marriage contemplated by the license has been performed by him. And the Secretary of State shall furnish to the county clerks of the various counties of the State, blank forms of affidavit, containing the requisite allegations, under the laws of this State, of the competency of the parties to unite in the bonds of matrimony, and any party applying for license to marry, shall cause such an affidavit to be made and filed with the county clerk, as a basis for the issuing of the license; and such affidavit together with the license, shall be made a matter of record of said clerk's office.

Secretary of State to furnish to county clerks blank forms of affidavits, etc.

SEC. 3. It shall be the duty of the county clerk, on application being made to him, to fill out the blank spaces of the license according to the sworn answer of the applicant taken before him or some person duly authorized by law to administer oaths. If it shall appear that the parties are legally entitled to be married, the county clerk shall sign the license in certification of the fact, that it is properly issued, and he shall make a correct copy thereof in the books of registration. For his services connected therewith he shall be entitled to a fee of fifty cents, to be paid by the party applying, and at the time of the issuing of the license. He shall give the license, thus filled out and signed by him, together with the blank form, of certificate, to the party applying for delivery to the clergyman or magistrate who is to officiate at the marriage. On the return of the license to the county clerk (as specified in section four, below), with the certificate of the clergyman, or magistrate, that the marriage has been performed, he shall record in the book of registration, in their proper places of entry, the date and place of the marriage, the names and residences of two witnesses to the marriage, and the name of the officiating clergyman or magistrate. All licenses and certificates so issued and returned shall be preserved on file in the office of the county clerk, and he shall, as often as once in three months, make a faithful report to the Secretary of State of all licenses and certificates issued and received by him.

Duty of county clerk.

Fees.

Licenses and certificates, where filed, etc.

SEC. 4. It shall be the duty of the clergyman or magistrate, officiating at a marriage to fill out the spaces of the certificate left blank for the entry of the time and place of the marriage, the names and residences of two witnesses, and his own signature in certification that the marriage has been performed by him. He shall separate the duplicate license and certificate and retain one-half for his own record, and he shall return the other half within ten days to the county clerk issuing the same.

Duty of officiating clergyman or magistrate.

SEC. 5. Any county clerk who shall refuse to give a license to persons properly applying and legally entitled to be married, or who shall violate any of the provisions of this act, shall be adjudged guilty of a misdemeanor, and shall be punished by a fine of not less than twenty-five dollars or more than one hundred dollars, or in default of payment thereof by imprisonment in the county jail for a term of thirty days.

Penalty for violating act by county clerk.

SEC. 6. Any clergyman or magistrate who shall join together in marriage parties who have not delivered to him a properly issued license, as provided for in this act, or who shall violate any of the provisions of this act, shall be adjudged guilty of a misdemeanor, and shall be punished by a fine of one hundred dollars, or, in default of payment thereof, by imprisonment in the county jail for a term of ninety days.

Penalty for violation by clergyman, etc.

SEC. 7. Any person whose duty it shall be to return a marriage certificate to the county clerk, who shall neglect to return said certificate, shall be adjudged guilty of a misdemeanor, and shall be punished by a fine of not exceeding one hundred dollars or ninety day's imprisonment, or both in the discretion of the court.

Penalty for neglect to return certificate.

SEC. 8. Any person applying for a marriage license who shall swear to a false statement therein, shall be guilty of perjury and shall be prosecuted therefor under the general laws of the State.

False swearing, in application, perjury.

County clerks; duties of.

(860.) SEC. 3. It shall be the duty of the county clerks of the several counties of this State, on receiving the returns of such births, marriages, and deaths to record the same at length in separate books, to be provided at the expense of the State by the Secretary of State, for that purpose, with proper indexes thereto. The births, marriages, and deaths shall be numbered and recorded in the order in which they are received by the clerk, and the record of marriages shall be indexed, using both the name of the bridegroom and bride. The record of births shall state, in separate colums, the date of the birth, the name of the child (if it have any), the sex and color of the child, the place of birth, the christian and surname of both parents, the residence and nativity of the parents, the occupation of the father, and the date the record was made: *Provided*, That in case the child has no christian name, such name shall be obtained and reported to the county clerk in the next annual report of the supervisor or assessor, and such christian name shall be distinctly designated in such report as the christian name belonging to a child previously reported, and shall be properly entered by said county clerk, in the blank left for such christian name in his book of record; and it shall be the duty of the several county clerks, on or before the tenth day of April in each year, to give to the officers required to make the said returns, lists of such children whose christian names have not been previously reported in their respective towns, cities, or wards. The record of marriages shall state, in separate columns, the date and place of marriage, the christian and surname of the bridegroom and bride, and the maiden name of the bride, if a widow, the color, age, and place of birth of each, the residence of each at the time of marriage, the occupation of the bridegroom, and the name and official station of the person by or before whom they were married, the names and residences of at least two witnesses present at such marriage, and the date when such record was made.† The record of deaths shall state in separate columns, the date of the death, the christian and surname of the deceased, the sex and color, whether married or single, the age in years, months and days, the place of death, the disease or apparent cause of death, the nativity of the deceased, and the occupation, if any, and the names, residence of the parents, if known, and the date when such record was made. The clerks of the several counties shall annually, on or before the first day of September make and transmit to the Secretary of State, a certified copy of the records of his office, of all the births, marriages,* and deaths reported in their respective counties for the year ending December thirty-first, last preceding. And each county clerk shall receive for the record of each birth and death in his office three cents, and three cents for each birth, marriage, and death, returned by him to the Secretary of State, to be paid by the county, and shall be compensation in full for all services required by this act to be performed by him.

Births, marriages and deaths to be numbered and indexed.

Record of births shall state.

Proviso.

Record of marriages shall state.

Record of deaths shall state.

Return of county clerk.

Compensation.

Secretary of State shall furnish all blank books, blanks, instructions, etc.

(861.) SEC. 4. The Secretary of State shall prepare and furnish to the county clerks of the several counties in this State, blank books of suitable quality and size, with proper rulings and headings, to be used as books of record, in carrying into effect the provisions of this act. He shall also prepare and furnish blank "forms of returns," as hereinbefore specified accompanied with such instructions and explanations as may be necessary to insure uniformity in such returns, which blanks shall be forwarded to the several county clerks on or before the first day of March in each year; and the said county clerks shall deliver the same to the supervisors or assessors of the several townships, cities or wards therein, in their respective counties, on or before the tenth day of April.

Returns to be bound and indexed.

(862.) SEC. 5. It shall be the duty of the Secretary of State to receive the returns made in pursuance of the third section of this act, and he

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* Amended by Act 128, Laws of 1887, which see on previous pages for amended provisions in regard to marriages.

NOTE ON SECTION 5.—Act No. 194, Laws of 1867. In accordance with the provisions of this section, the early Registration Reports were prepared under the supervision of representatives of the State Medical Society, as follows: 1867, Dr. I. H. Bartholomew; 1868, Dr. George E. Ranney; 1869, 1870, Dr. Henry B. Baker. Under Section 10, Act No. 81, Laws of 1873, which provided that "The Secretary of State Board of Health shall be Superintendent of Vital Statistics. Under the general direction of the Secretary of State, he

shall cause the same for each year to be bound together, in one or more volumes, at the expense of the State, and make indexes thereto; and with such assistance as may be voluntarily rendered by any authorized committee appointed by the medical faculty of the University of Michigan or by any regularly authorized medical society in this State, for that purpose, he shall prepare such tabular statements, results, and deductions therefrom as will render them of practical utility, and make report thereof, annually, to the Governor of the State, which report may be ordered published and distributed in such manner as the Legislature may from time to time direct.

Secretary of State to make annual report.

Neglect to keep records.

(863.) SEC. 6. Every justice of the peace, minister of the gospel, and all other persons authorized by the laws of this State to solemnize marriages, and clerks or keepers of records of the meetings in which any marriage among the Friends or Quakers shall be solemnized, who shall neglect or refuse to make a record of such marriage, or to deliver to the county clerk of the county in which the marriage took place, a certified copy of such record, or who shall refuse, on demand, to deliver to the parties to such marriage the certificate thereof, as required by section two of this act, or who shall willfully make a false or fictitious entry in his record of marriages or in the certified copy of such record delivered to the county clerk, or in the certificates of marriages, delivered to the parties thereto, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by fine not exceeding one hundred dollars, and in default of paying the same, shall be imprisoned in the county jail of the county in which such conviction shall be had, until said fine be paid, but not to exceed the period of ninety days."

Neglect to deliver certificates.

Penalty.

Certificate of death.

(864.) SEC. 7. Every physician, surgeon, or midwife, who shall have been in attendance upon any deceased person, shall, upon application of any supervisor or assessor of the township, city, or any ward thereof, in which such death occurred, make out and deliver to such supervisor or assessor a certified statement, without fee, containing the name of the disease, or cause (if known), producing the death of such person; and any medical attendant who shall neglect or refuse to give such statement, or who shall willfully make a false statement in relation to such death, shall for such offense be liable to pay a fine of not less than ten nor more than fifty dollars, and the costs of prosecution, which fine the said supervisor or assessor is hereby required to sue for and collect, in his official character.

Refusal to make certificate.

Penalty.

Facts to be obtained by supervisor.

(865.) SEC. 8. It shall be the duty of each supervisor or assessor to obtain the facts in relation to births and deaths within his township, city or any ward therein (not otherwise obtained), from the heads of families, the keepers, overseers, or superintendents of asylums, hospitals, jails, prisons, workhouses, almshouses, houses of correction and similar institutions, the keepers of hotels, public and private boarding houses, and the masters or chief officers of steamboats and sail vessels, navigating any of the waters of this State, and touching at any port of entry therein, in which such births or deaths occurred; and if either of the above named persons shall refuse to give such information, then the same shall be obtained by such supervisor or assessor from any person having a knowledge of the facts in relation to such birth or death; and if the supervisor or assessor shall have reason to believe that any person or persons willfully misrepresented or concealed any facts relative to such birth or death in his township, city, or any ward therein, which he cannot otherwise obtain, he may examine such person or persons on oath (which oath such supervisor or assessor is hereby empowered and authorized to administer), in relation to any birth or death within his township, city, or any ward therein, of which such person or persons may have any knowledge or information; and if any person, after being duly subpœnaed (as pro-

Refusal to furnish.

Obtained under oath.

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shall collect these statistics and prepare and publish the Report required by law relating to births, marriages and deaths," the Reports for the years 1871 to 1880, inclusive, were prepared under the supervision of Dr. Baker, as Secretary of the State Board of Health. Act No. 107, Laws of 1883, amended the preceding section to read as follows: "The Secretary of the State Board of Health may publish in his Annual Report such information, or statistics as is provided for in this act," since which time the Registration Report has been prepared entirely by the Department of State.

Neglecting to answer a subpœna.

vided for compelling the attendance of witnesses in justices' courts) by such supervisor or assessor, for the purpose aforesaid, shall neglect or refuse to appear before such officer, or, appearing, shall refuse to be sworn and testify in relation to such matter, he shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished

Penalty.

therefor by a fine not exceeding fifty dollars, and in default of paying the same shall be imprisoned in the county jail of the county in which such conviction shall be had, until said fine be paid, but not exceeding ninety

Perjury.

days; and any person who after being duly sworn as aforesaid, shall willfully make any false statement in relation to any birth or death, about which he is required to testify, shall be deemed guilty of willful and corrupt perjury: *Provided*, That no person shall be required to answer any question which will tend to criminate himself or herself upon any such examination.

Proviso.

Neglect to perform duties.

(866.) SEC. 9. In case of the refusal or neglect by any of the officers mentioned in this act, to perform any of the duties hereinbefore required of them or either of them, to be done and performed by any of the provisions herein contained, such officer shall be liable to a fine not to exceed

Penalty.

one hundred dollars, and the costs of prosecution; and the prosecuting attorney in each county is hereby required to prosecute, in the name of the people of the State of Michigan, all persons in his county who shall

Misdemeanor.

willfully violate any of the provisions of this act; and the said supervisor or assessor of any township, city, or any ward therein, may be prosecuted for a misdemeanor under the section, and upon conviction, punished as therein provided for.

# SUGGESTIONS TO PERSONS AUTHORIZED TO PERFORM MARRIAGES IN MICHIGAN.

A thorough knowledge of the law concerning the solemnization and return of marriages in Michigan is necessary to a correct performance of the duties of persons authorized to solemnize marriages.

The most frequent violation of the law is in the marriage of persons *under the lawful age*, which is, for males, eighteen (18) years, and for females sixteen (16) years. See Section 6209, Howell's Annotated Statutes, 1882, printed on a previous page. The penalty for the violation of this provision is a forfeit of not exceeding one hundred (100) dollars. See Section 6, Act 128, Laws of 1887, printed on a previous page.

In the record and return of marriages, every item specified in the law should be carefully ascertained, and correctly and plainly written. No item should be omitted, and nothing taken for granted, as is often the case with the fact as to COLOR of persons married.

In recording the BIRTHPLACE of each, the State, or country should be distinctly given in each case. This will avoid the difficulty of ascertaining the nativity of persons whose birthplace is returned "Holland," "Hanover," "Denmark," "Wales," "Paris," etc.,—names of places which may be either in the United States or Europe. If such or similar names occur, please state whether it is Holland, *Michigan*, or Holland, *Europe*, and so for each case. Never return the birthplace "America," as we cannot know whether it is in the United States, and are therefore compelled to compile it with the "Unknown."

Blanks for the return of marriages to the county clerk are not required under the present law, as the return of the license with the certificate properly filled out constitutes the proper return to the county clerk.

The license to marry can only be procured from the several county clerks, but the affidavit necessary to procure the same may be made before any person authorized to administer oaths, and blank affidavits can be had from any county clerk or from the office of the Secretary of State.

# CIRCULAR OF INSTRUCTIONS RELATING TO THE COLLECTION OF BIRTHS AND DEATHS BY SUPERVISORS AND ASSESSORS.

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The following circular is presented for reference on the part of those entrusted with the collection of the data on which the Vital Statistics relating to births and deaths in this State are based. It incidentally throws much light on the character of the large number of faulty and indefinite returns of causes of death annually received, many of which a few intelligent questions on the part of the enumerating officer would put into satisfactory shape.

Some criticism may be made, and with a certain degree of truth, that these instructions leave many points unasked for upon which specific information would be very desirable. It must be remembered that the entire enumeration is made by persons unfamiliar with medical terms, and that any improvement in the fullness and accuracy of the causes of death returned can only be made by very slow degrees. An attempt to make any marked changes, as, for instance, to distinguish primary and secondary causes of death, would, by causing uncertainty and confusion in the minds of the enumerators, defeat its purpose and produce even less satisfactory results than obtained at present. Until a system of registration is adopted in which the returns of causes of death are drawn directly from certificates issued by the medical attendants, the best results cannot be obtained.

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[Please preserve this circular for reference.]

MICHIGAN,
DEPARTMENT OF STATE.

INSTRUCTIONS FOR ENUMERATION OF BIRTHS AND DEATHS.

*To Supervisors and Assessors:*

1. You are required to ascertain by actual inquiry or otherwise, the births and deaths that have occurred in your township, city or ward during the year ending December 31, 1893.

2. Your County Clerk has been supplied with the proper blanks for this purpose. He will deliver them to you on or before the *tenth day of April.* Examine the forms carefully and read the special directions printed thereon. They are substantially as follows and should be strictly followed:

3. *This return is to be made between the tenth day of April and the first day of June, 1894.*

4. *A return should be made to the County Clerk by every supervisor or assessor*

*whether any births or deaths have occurred in the township or ward or not. This is necessary in order to show that the enumeration has been performed in every township or ward.*

5. **Be very particular to fill all the blanks.**

6. **Never use ditto marks or dashes. Every item should be written out in full.**

7. *When the item called for cannot possibly be ascertained, write in such space the word "Unknown" to show that the item has not been overlooked.*

8. *All names of persons and places should be plainly written and correctly spelled.*

9. See that the County, Township, Year, Signature and Official Station of the enumerator are filled in before sending the returns to the County Clerk.

10. Occupations should be stated for both sexes whenever possible.

11. If, in any instance, a birth or death be returned which did not occur in your own county, the name of the county should be given; if not in this State, the State should be given; if in towns with such names as "Holland," "Denmark," "Wales," "Berlin," etc., designate whether United States or foreign, by giving county or State, or by writing "Europe." Where there is a township and village or city of the same name, state which it is, in order to make possible the compilation by cities or villages.

12. **Every still-birth should be reported as a birth and as a death.** See directions for reporting in deaths on reverse side.

13. Instructions relating to the correct return of the cause of death are given on the back of this circular. Supervisors should exercise especial care to obtain correct and definite information under this head, as the returns have hitherto been very defective.

14. *In cities where burial permits are required*, and a register of deaths is kept, the enumerators should by all means use this in preparing their returns. These registers are kept as a rule in the offices of the city clerks, health officers, or superintendents or sextons of cemeteries. It may be necessary to obtain certain additional information to that found on these registers in some cases by personal inquiry, but for the main facts —number of deaths, dates, causes of death, etc.,—such registers, if well kept, are far more reliable than any information to be gained by personal inquiry of the friends of decedents. In the matter of causes of death this is especially true, and the statements of the city registers, when based upon certificates of death, should be implicitly followed. Supervisors should note on their returns the fact that they are copied from registers of deaths, when such is the case, in order that proper value may be attached to them in compilation.

15. Lastly, *read the law* providing for the registration of births and deaths: Act No. 194 of 1867, as amended by Act No. 125 of 1869, Howell's Statutes, sections 858 to 866, or Michigan Township Officers' Guide, sections 581 to 585. The law will also be found printed in the Appendix of the Registration Report, which may be had of the County Clerk or of this Department upon application, and an extract from it is printed on the back of the blanks.

Respectfully,

WASHINGTON GARDNER,
*Secretary of State.*

*Lansing, March 22, 1894.*

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[Reverse side.]

DIRECTIONS FOR MAKING CORRECT RETURNS OF THE CAUSE OF DEATH.

It is of great statistical importance that supervisors make a correct return of the cause of death in the case of every death registered by them, so far as they may be able to ascertain that fact. For this reason the law provides that the physician last in attendance upon any deceased person shall furnish to the supervisor, upon his request, a certified statement of the cause of death, and it is to be regretted that they are not more frequently called upon for such statements. As a rule the information reported is derived from the statements of the family or friends of deceased persons, and the information thus obtained should be stated without material modification, except that, when the statements made are quite indefinite and unsatisfactory, the enumerator should endeavor, by inquiry, to obtain a more satisfactory return, and, **in every case, to ascertain the name of the disease that actually caused death, if known.**

The following suggestions relating to the most common varieties of unsatisfactory returns of the cause of death, are given with the hope that supervisors will exercise special care and make such further inquiries as may be necessary to secure definite statements in cases where these indefinite replies are made. In no such case is it desired that the supervisor shall attempt to supply any facts from conjecture, or make

definite from supposition any return that, after his best efforts at obtaining the information, remains unsatisfactory. With the greatest pains, there will be uncertainty in many cases, whether from doubtful diagnosis or otherwise, and nothing more can reasonably be expected than that the cause of death be reported as fully as known.

1. Do not return deaths from "Debility," "Exhaustion," "General Debility," "Weakness," and the like, if the cause that produced such conditions can be learned. Name the *disease* that caused death, if known.

2. Do not return deaths from "Old age" or "Infancy," if the disease that produced death in the aged person or infant in question can be ascertained. Remember that old age is not a disease. The aged are subject to diseases, which should be definitely named in the registry of death, if possible. The statement of the exact age of the decedent, as given in another column, conveys all the information necessary in regard to the fact of advanced years, as modifying the course of, or predisposing to, certain diseases.

3. Deaths from "Hemorrhage" or "Inflammation" should always specify the part of the body affected, if known. Thus "Inflammation of lungs" is a complete and satisfactory return, while "Inflammation," standing alone, is practically equivalent to "Unknown." Care should also be taken to specify what portion of the body was affected in deaths from cancers or tumors.

4. Returns stating the part of the body affected but not the nature of the disease, should be made only when the name of the disease that caused death cannot be ascertained. Thus "Lung disease" is a more satisfactory report than "Unknown" in a case of consumption, but a return of "Consumption" would be far more proper than either, this being the actual cause of death. Always ask for further information when such replies are made as "Lung disease," "Bowel disease," "Brain disease," and the like.

5. In deaths from fevers, the kind of fever should always be specified, if it can be ascertained. The expressions "Typhoid fever" or "Malarial fever" are definite; "Fever" is quite indefinite, nevertheless it will frequently be impossible to obtain a more complete return, and the enumerator will be compelled to give the cause of death as stated to him in such case.

6. The term "Heart failure" should rarely, if ever, be returned as a cause of death without further explanation. In deaths from acute infectious diseases, as from diphtheria, scarlet fever, typhoid fever, etc., the immediate cause of death may be heart failure; in such cases the disease in the course of which the heart failure occurred should always be named, as "Heart failure after diphtheria." If the heart failure be understood as due to actual heart disease, the latter should be named as the cause of death. But in the great majority of cases so returned to this office, the term is evidently used so loosely as to possess very little meaning. Supervisors should avoid and discourage such indiscriminate use of the expression in making out their reports.

7. "Convulsions," "Cramps," "Fits," "Spasms" are all unsatisfactory terms, which should not be employed provided the actual cause of death can be discovered. Name the disease that caused death, *not merely the symptoms* of that disease.

8. "Dropsy" is not a satisfactory term, but you will frequently be obliged to accept it. Endeavor to ascertain the disease that caused the dropsy, e. g., heart disease, Bright's disease, etc., and include it in your return.

9. In all deaths from violence specify in the record (1) whether accidental, homicidal or suicidal; (2) the means of death, as drowning, shooting, poisoning, etc. In the case of death from poison the kind used should be specified.

10. **Every still-birth should be reported as a birth and as a death.** A still-born child is one *born dead*, not one that died after birth. For those that lived an appreciable time, however brief, after birth, another cause of death should be assigned.

11. In deaths from influenza (la grippe) specify the mode of death when known, as "Pneumonia following la grippe." This is more valuable than the return of the death simply ascribed to the influenza, without hint of the manner in which the death took place.

# CIRCULAR OF INSTRUCTIONS RELATING TO THE RETURN OF BIRTHS, MARRIAGES AND DEATHS BY COUNTY CLERKS.

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Careful observance of the following directions by county clerks will greatly facilitate the work of compilation of the returns in this Department, and lead to increased accuracy of the records. No detail is too trifling to be observed in preparing these returns if its neglect is likely to lead to misunderstanding and ambiguity in regard to the facts registered. It is especially important that county clerks use every effort to obtain correct information from supervisors in case of omissions in their returns, and that they be fully instructed as to the necessity of filling every blank space in the forms provided for their use. Much time is wasted every year in writing for omissions that would have been detected by the careful comparison of the record and transcript before the transmission of the latter to this Department.

County clerks are urged to comply strictly with the law which requires their returns to be forwarded by September 1, of each year. There is no necessity of delaying until that time, and in fact many County clerks make full returns in July. There is no reasonable excuse for delay beyond the prescribed time, for it is expressly requested that no delay be made on account of delinquent townships, but that the supervisors of all townships who have not complied with the State law be reported to this Department.

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[Please preserve this circular for reference.]

MICHIGAN,
DEPARTMENT OF STATE.

INSTRUCTIONS FOR MAKING RETURNS OF BIRTHS, MARRIAGES AND DEATHS.

*To County Clerks:*

In transmitting blanks for the registration and return of births, marriages and deaths to this Department, it is proper to call attention to certain particulars which should be observed in preparing the returns.

1. *Careful examination should be made of the returns immediately upon their receipt from the supervisor*, and if omissions be observed the attention of the supervisor should be called to them at once. If necessary, they should be returned to the supervisor for correction. *County clerks should also notice whether any townships fail to make reports*, or whether any large and populous townships report an absurdly small number of births or deaths. The average birth-rate for the State, according to the present returns, which are much below the true figures, is 23.7 per 1,000 inhabitants. The average death-rate is 10.3. Any returns that fall greatly below these figures may

be regarded with some suspicion as not being perfect. By a little attention to these matters on the part of county clerks, many delinquent returns may be properly brought in, and much correspondence for corrections will be rendered unnecessary.

2. The returns should not be delayed in order to obtain the omissions noted above. *Send them in, whether complete or incomplete, promptly on September 1.* Notify us at the same time of any delinquent townships and of any efforts on your part to complete their returns, and further inform us promptly as soon as such delinquent townships make their returns.

3. No returns should be sent to this department until they have been carefully compared with the records. *Never use ditto marks or dashes in preparing the transcript.* Each space on the blanks requires a separate word or words to be inserted, and the use of symbols of repetition leads to much inaccuracy and confusion.

4. In the returns of births, write the name of, and other facts concerning the mother, immediately under that of the father; and in marriages, write the name, etc., of the bride, immediately under that of the bridegroom, *not* leaving a blank space between the parties to the same birth or marriage.

5. *Marriages should be sent in promptly at the end of each quarter.* The quarters end on March 31, June 30, September 30, and December 31. *Also keep a list of all marriages for which the return of marriage has not been previously sent in to this department, the license having been issued in some previous quarter or year, and send a full transcript of the same with your next quarterly report.*

6. Letters calling for *corrections* of the returns will be sent out from this office, in the case of marriages as soon after the receipt of the returns for the first quarter of the following year as the examination can be made, and in the case of births and deaths immediately upon their arrival at this office. County clerks are requested to carefully examine their records (if necessary, referring directly to the supervisor), and *promptly supply the information required.*

7. County clerks should be particular to sign the returns in the space provided for that purpose *on each page.* The name of the county, year, etc., should always be properly inserted.

8. In transmitting, please roll the blanks, not fold them. A receipt is sent from this office as soon as received. In case of its non-arrival, notify the department in order that the returns may be traced, if necessary.

Very respectfully,

WASHINGTON GARDNER,
*Secretary of State.*

*Lansing, March 22, 1894.*

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